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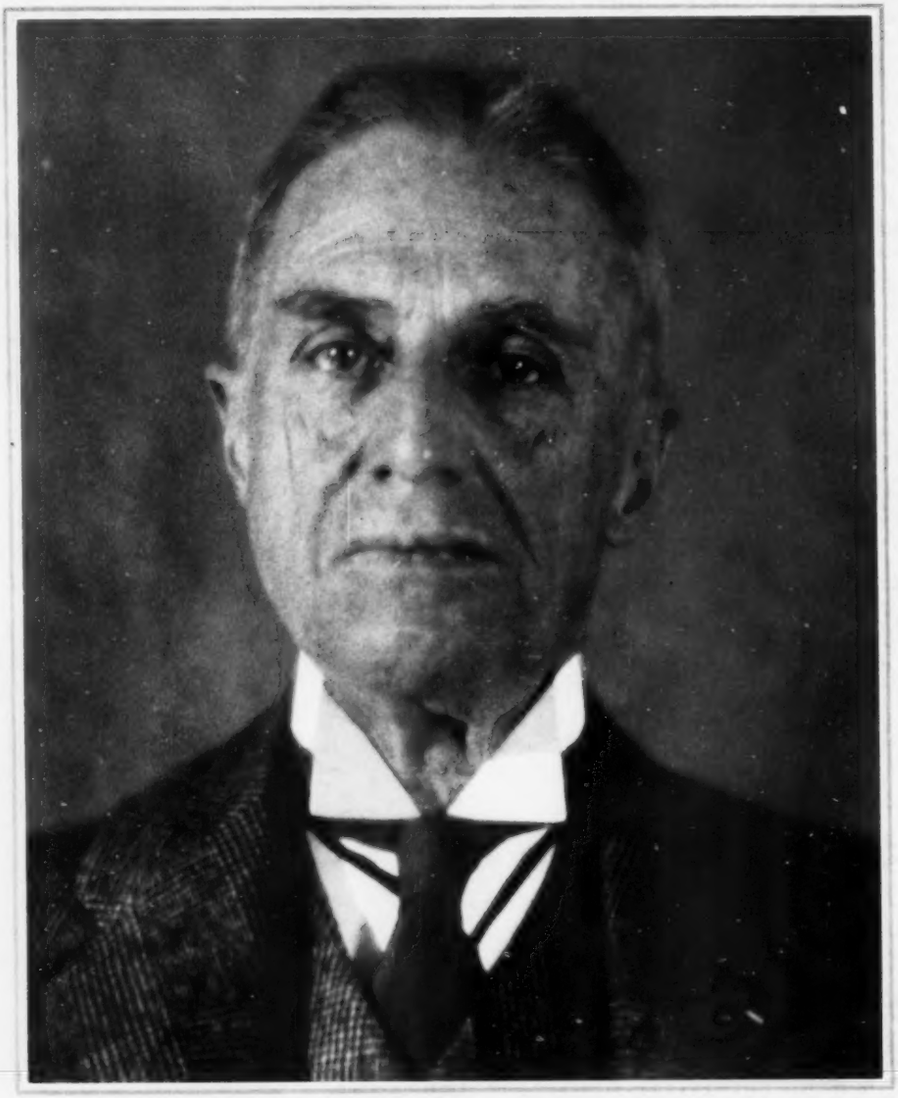

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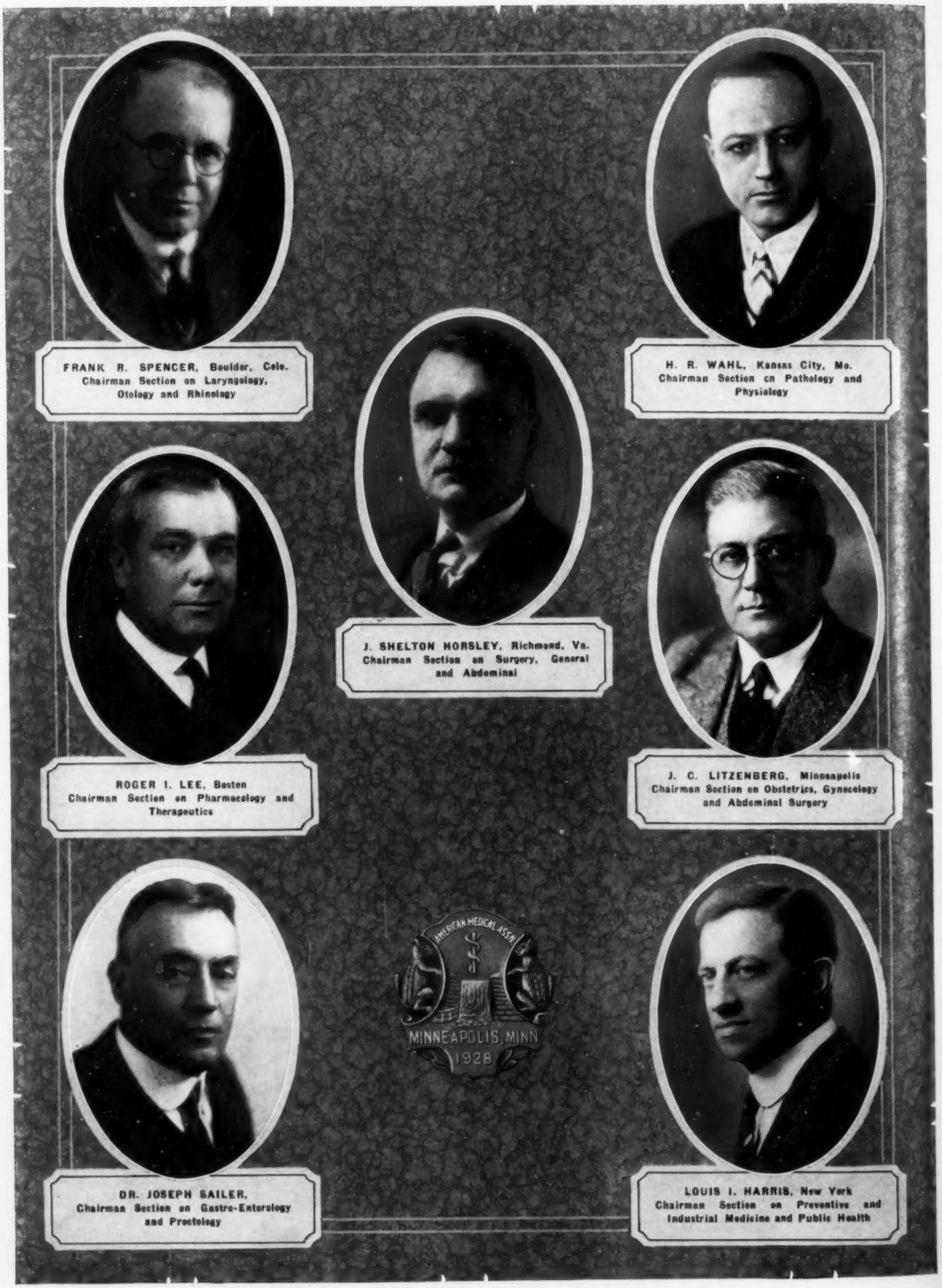
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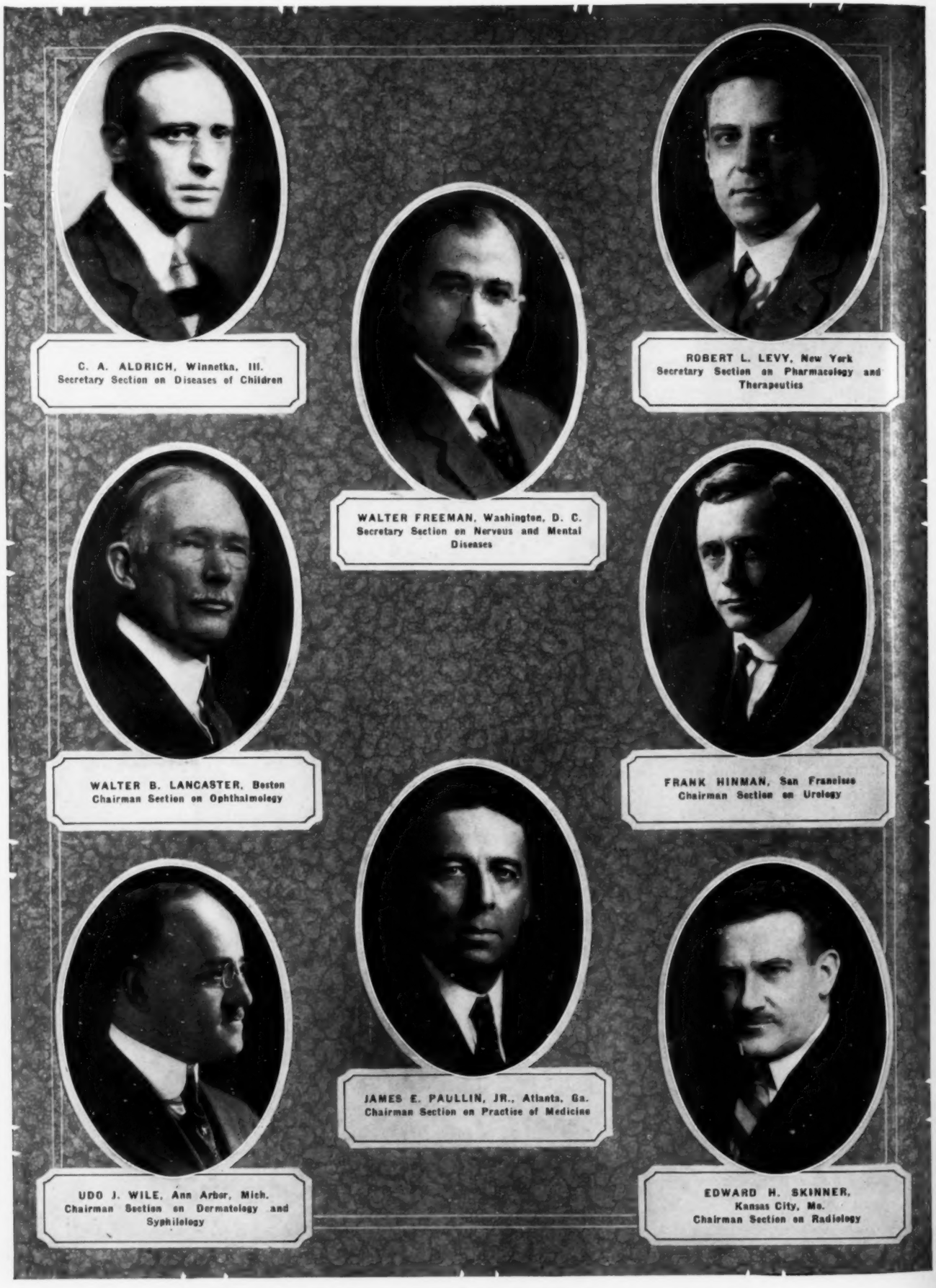
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TREATMENT OF ILEUS BY SPLANCHNIC ANESTHESIA

PRELIMINARY REPORT OF EXPERIMENTAL STUDY *

ALTON OCHSNER, M.D.
I. M. GAGE, M.D.
AND
R. A. CUTTING, M.D.
NEW ORLEANS

One of the most dreaded conditions which a surgeon is called on to treat is an acute ileus, whether the process is due to some mechanical obstruction or to atony or spasticity of the intestinal musculature. It is true that since the work of Haden and Orr,[1] which emphasized the importance of combating the alkalosis and hypochloremia present in this condition, considerable progress has been made in therapy. An enterostomy in a certain percentage of cases is apparently life saving. In spite of these therapeutic advances, however, one is not infrequently confronted with the problem as to what should be done in a case in which these measures have failed. It is not uncommon to find in cases of acute ileus, in which an enterostomy has been done in an effort to relieve the ileus, that there is no discharge of fecal contents or gas through the enterostomy opening, with also no relief in the symptoms. It is folly for one to assume that the drainage of a small segment of intestine in paralytic ileus, as is accomplished following an enterostomy, will relieve the patient of his toxemia. Unless something can be done to bring about a contraction and peristalsis in the distended paralytic intestine, death from toxemia will invariably result. The exact cause of the extreme relaxation of the intestinal musculature in the so-called adynamic ileus, and especially the persistence of ileus after a relief of the mechanical obstruction, is still a matter of dispute. In some certain cases the ileus is undoubtedly the result of inhibitory nervous impulses being supplied the intestinal musculature. In others the paralysis is probably caused by direct injury of the muscle fibers by toxins.

Recently numerous reports have appeared from the literature, especially by continental surgeons, concerning the use of spinal anesthesia in cases of paralytic ileus. Wagner,[2] in 1922, gave a very favorable report on the use of spinal anesthesia in the treatment of ileus. Since this time numerous clinical reports[3] have appeared which have largely substantiated Wagner's original observation. Quite recently some unfavorable results have been brought to light, especially by the French school, which has evidently been using the procedure in a wholesale manner. As proof of this, one has only to state Duval's[4] statistics. He was able to collect reports of 400 cases of acute ileus in which spinal anesthesia had been used. These were subdivided into the following groups: (1) strangulated hernia; (2) adynamic ileus, and (3) mechanical ileus.

Of the cases of adynamic, paralytic and spasmodic ileus, an evacuation of the intestine was brought about in 68 per cent, while in only 16 per cent of those presenting mechanical ileus was such an evacuation produced. Mauclaire,[5] Lapointe,[6] Vanlande, Boppe and Okinczyc,[7] Picot,[8] and Guibal[9] also report cases of mechanical ileus in which spinal anesthesia has been used. The greater number of these observers warn against its use, either because of its ineffectiveness or because of the harmful effects produced by the spinal anesthetic. It is not difficult to understand why the results obtained by these observers have varied so remarkably. In cases of mechanical obstruction there is, early, no interference with the contractility of the intestinal musculature. In fact, hyperperistalsis is invariably present. The obstipation and toxemia are the result of mechanical obstruction, and the intestinal musculature becomes paralytic as a result of prolonged distention or toxemia. It is folly to assume that any more beneficial results could be obtained by renewing the peristalsis, without removing the obstruction, than were obtained before the adynamic ileus set in. In support of the beneficial results obtained clinically in cases of ileus, following the introduction of an anesthetic solution into the lumbar subarachnoid space, is the experimental work of Markowitz and Campbell.[10] These observers, working with dogs, found that the normal physiologic ileus which appears on opening the abdominal cavity of the dog could be prevented or relieved by the introduction of a solution of procaine hydrochloride into the lumbar subarachnoid space. Also a paralytic ileus, following the introduction of iodine into the peritoneal cavity, and a traumatic para-

* From the Department of Surgery, Tulane University of Louisiana School of Medicine.

1. Haden, R. L., and Orr, T. G.: Effect of Sodium Chloride on Chemical Changes in Blood of Dog After Pyloric and Intestinal Obstruction, J. Exper. Med. **38**: 55-71 (July) 1923; Experimental High Jejunostomy in Dog, with Blood Chemical Studies, J. Exper. Med. **44**: 795-803 (Dec.) 1926.
2. Wagner, G. A.: Zur Behandlung des Ileus mit Lumbalanesthesie, Arch. f. Gynäk. **192**: 336-339, 1922.
3. Asteriades, T.: Sur le traitment de l'iléus spasmodique postopératoire aigue par la simple rachianesthésie, Presse méd. **33**: 1480 (Nov. 7) 1925. Cotte, cited by Asteriades.
4. Duval, P.: La rachianesthésie dans l'ileus aigu, Bull. et mém. Soc. nat. de chir. **53**: 596 (May 7) 1927.
5. Mauclaire: Apropos de la rachianesthésie dans l'occlusion intestinale, Bull. et mém. Soc. nat. de chir. **53**: 472 (April 2) 1927.
6. Lapointe, A.: La rachianesthésie dans l'ileus aigu, Bull. et mém. Soc. nat. de chir. **53**: 474 (April 2) 1927.
7. Vanlande, Boppe, and Okinczyc: Rachianesthésie l'ileus, Bull. et mém. Soc. nat. de chir. **53**: 479 (April 2) 1927.
8. Picot: La rachianesthésie au cours de l'occlusion intestinale, Bull. et mém. Soc. nat. de chir. **53**: 486 (April 2) 1927.
9. Guibal, P.: La rachianesthésie dans l'ileus, Bull. et mém. Soc. nat. de chir. **53**: 539, 1927.
10. Markowitz, J., and Campbell, W. R.: The Relief of Experimental Ileus by Spinal Anesthesia, Am. J. Physiol. **81**: 101-106 (June) 1927.

lytic ileus produced by rubbing loops of intestine with gauze, could be relieved by spinal anesthesia. Mayer,[11] Colmers [12] and Duval [4] recommend the spinal anesthesia in cases of spastic ileus, as well as in paralytic ileus.

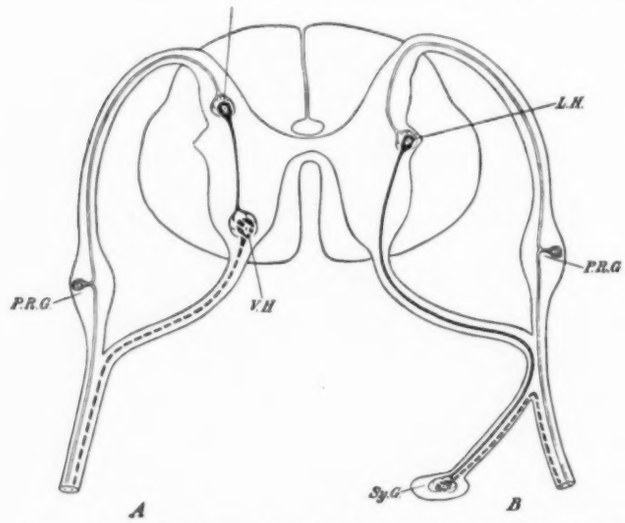

Fig. 1 (after Gaskell).—Schematic drawing showing relationship of sympathetic system, *B*, to the spinal nerves, *A*. *P. R. G.*, posterior root ganglion; *L. H.*, lateral horn; *Sy. G.*, sympathetic ganglion; *V. H.*, ventral horn. The heavy solid line extending from the lateral horn to the sympathetic ganglion represents the white rami communicantes. The heavy broken line extending peripherally from the sympathetic ganglion represents the gray rami communicantes.

From these clinical and experimental observations, one is justified in assuming that in at least a certain percentage of cases of ileus undoubtedly only the paralytic or spastic type, and probably only the former, may be treated successfully by the introduction of an anesthetic solution into the lumbar subarachnoid space.

The nerve supply of the intestinal tract is complex. That intestinal movement may occur when a loop of bowel is completely freed from its extrinsic nerve supply has been demonstrated on numerous occasions by various physiologists, as Bayliss and Starling,[13] and Macleod.[14] Recently Lewin [15] has shown that the same holds true for human intestinal musculature. Peristalsis begins in these isolated loops in the plexus of Meissner and Auerbach. The extrinsic nerves of the small intestine are purely regulatory in nature. The splanchnics, or sympathetics, are inhibitory, as evidenced by the fact that division of the splanchnics produces a marked increase in intestinal movements; conversely, stimulation of the splanchnics produces a cessation of such movements (Bayliss and Starling, Macleod). The parasympathetic, or vagi, are motor. Stimulation of the vagi produces contraction; resection of these nerves has little effect. In certain cases of paralytic ileus, the extreme relaxation of the intestinal musculature is probably the result of increased inhibition reaching the intestinal musculature by way of the splanchnics.

The sympathetic system, of which the splanchnics are a part, arises in the central nervous system. Gaskell [16] considers the sympathetic nervous system phylogenetically a part of the central nervous system, and compares it to the optic nerve. According to Gaskell's conception, the sympathetic ganglions are as much a part of the central nervous system as are the optic nerve and the retina. The afferent fibers enter the spinal cord with the posterior or sensory nerves after passing through the posterior root ganglions (fig. 1). From the posterior root ganglions, fibers pass into the cord through the posterior roots and end in the lateral horn. From the lateral horn cells efferent fibers, which are medullated (white rami communicantes), pass out through the anterior horns. The white rami communicantes end in the sympathetic ganglions located on each side of the vertebral column. From these ganglions nonmedullated fibers, or gray rami communicantes, pass to the various viscera. In those cases of ileus which are due to an inhibition of the intestinal motility resulting from impulses passing by way of the sympathetics, effective results may be obtained by blocking the reflex arc and thus abolishing the inhibition. This is the explanation which has been given for the beneficial results obtained following spinal anesthesia in cases of ileus.

If such a mechanism is responsible for the relief of ileus, it occurred to us that cases of ileus might as well,

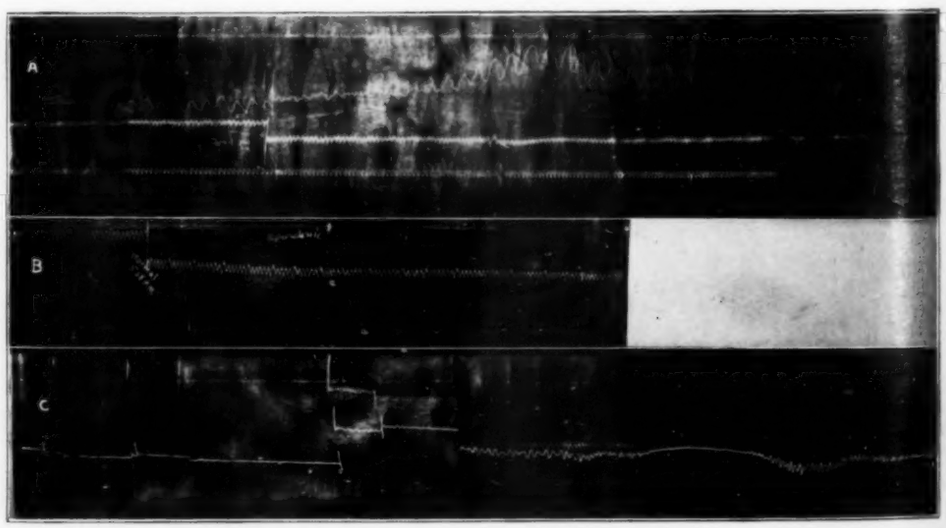

Fig. 2.—Kymographic tracings: *R*, respiration; *T*, time in seconds; *P*, peristalsis; *B. P.*, carotid blood pressure. *A*, tracing of normal intestinal movement in experiment 2 (P). At the arrow splanchnic anesthesia was induced. Following a transitory decrease in peristalsis there was a marked increase in the intestinal activity. *B* (experiment 5), toxemia produced by high obstruction of ileum. Normal peristalsis was first observed. At 5:58, splanchnic anesthesia was produced which resulted in an immediate rise in the tone of the intestinal musculature, as well as in active peristalsis. *C*, animal operated on under ether anesthesia. No evidence of normal peristalsis. At the arrow, splanchnic anesthesia was induced. A latent period of twenty minutes elapsed before peristalsis began. Peristalsis was less active than that seen under local or barbital anesthesia.

11. Mayer: Spastic Ileus and Lumbar Anesthesia, Zentralbl. f. Chir. **49:** 1882-1885 (Dec. 23) 1922.
12. Colmers, Franz: Ueber spastischen Ileus, München. med. Wchnschr. **73:** 2205 (Dec. 24) 1926.
13. Bayliss, W. B., and Starling, E. H.: J. Physiol. **24:** 122, 1899.
14. Macleod, J. J. R.: Physiology and Biochemistry in Modern Medicine, St. Louis, C. V. Mosby Company, 1922.
15. Lewin, M. M.: Beobachtung über die Funktion einer isolierten und von allen ihren früheren Nervenbindungen mit dem Organismus vollkommen befreiten Düunlarmschlinge beim Menschen, Arch. f. d. ges. Physiol. **216:** 673-681 (June 8) 1927.
16. Gaskell, W. H.: The Involuntary Nervous System, New York, Longmans, Green & Co., 1916.

or better, be treated by the mere blocking of the splanchnics instead of the spinal nerve roots in this region. Metge [17] found hyperperistalsis in one fifth of his cases in which splanchnic anesthesia was given for routine abdominal operations. Spinal anesthesia is not without danger, for when the anesthetic has once been introduced into the subarachnoid space it is virtually

Fig. 3 (experiment 3).—Normal intestinal activity; plate taken with a thirty second interval.

impossible to recover it, and serious symptoms may ensue. Splanchnic anesthesia is considered by Braun to be a much safer procedure.

In order to determine the effect which splanchnic anesthesia might have in ileus, the following experiments were performed. Twenty-five dogs were used in the series. The experiments may be divided into three groups, according to the type of ileus which was present. A typical protocol will be given illustrating each group.

PHYSIOLOGIC ILEUS

Fourteen experiments were performed in the group of animals with physiologic ileus. It is a well established fact that on opening an animal's peritoneal cavity, almost invariably no peristalsis can be made out. Pal,[18] in 1890, was one of the first to call attention to this phenomenon. Bayliss and Starling, in 1899, showed that following the resection of the splanchnics this reflex ileus was relieved.

EXPERIMENT 1.—January 4, a small shaggy-haired male fox terrier, weighing 6 Kg., was given splanchnic anesthesia, according to the method of Kappis.[19] The needle was introduced from behind at the lower border of the twelfth rib 2 cm. from the midline. This was found to be too near the midline. A point 3 cm. from the midline at the lower border of the twelfth rib was then chosen. Five cubic centimeters of 1 per cent procaine hydrochloride was injected into each side. Following this procedure, the animal was placed on his back. After a block anesthesia of the abdominal wall with 1 per cent procaine, a right rectus incision was made under sterile precautions. The peritoneum was opened for a distance of about 10 cm. A considerable portion of the intestine was brought out through the wound. A very marked peristalsis impressed one immediately. This involved both the large and the small intestine. In addition to the very distinct peristaltic motion, there was a longitudinal contraction in an accordion-like manner, producing serrations on the intestinal surface. The peristalsis remained active during the entire period of observation, which was fifteen minutes. The abdominal wall was closed in layers. The animal was allowed to get up, and was able to walk about.

EXPERIMENT 2.—January 14, at 1:30 p. m., a smooth-haired white male bulldog, weighing 17 Kg., was given 5.1 Gm. of soluble barbital dissolved in 25 cc. of water through a stomach tube.

At 2 p. m. the animal appeared drowsy, but could be aroused.

At 2:30 p. m. the animal was sleeping, but apparently not anesthetic.

At 2:45 p. m. he was asleep and appeared anesthetic.

Without sterile precautions an incision was made in the midline of the neck, freeing the trachea. A tracheal cannula was introduced into the trachea, which was connected by means of a rubber tube to a tambour registering on a kymographic drum. The left common carotid was isolated and a cannula connected with a manometer registering on the drum. A low midline abdominal incision was made; a loop of ileum was brought up into the wound; a purse-string suture was inserted at its antimesenteric border, following which an opening was made into the intestine. Through this opening a rubber tube, carrying a rubber balloon at its end, was introduced for a distance of about 6 inches distal to the opening. The purse-string suture was tightened. The tube carrying the balloon was attached to a tambour, which also registered on the drum. The intestine was replaced into the abdominal cavity, and the abdominal wound closed by means of towel clips. The kymographic tracing was started. There was evidence of normal peristaltic action (fig. 2*A*).

By 3 p. m. a normal tracing had been obtained. Splanchnic anesthesia was induced according to the method of Kappis. Twenty cubic centimeters of a 1 per cent solution of procaine

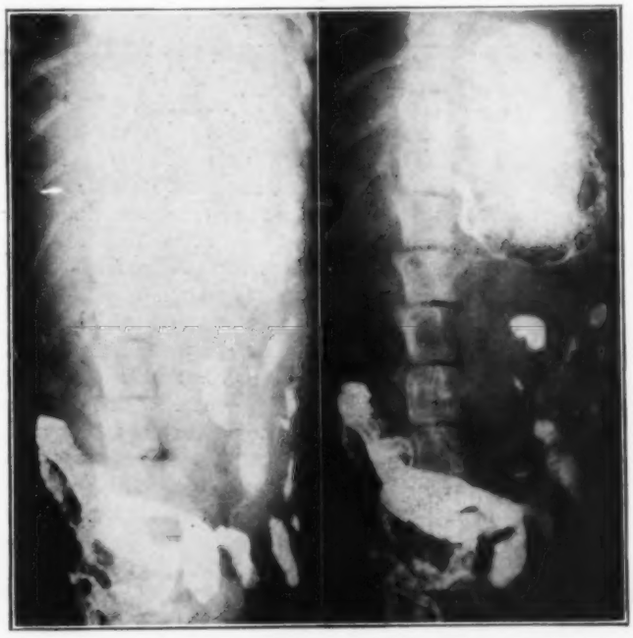

Fig. 4 (experiment 3).—Roentgenograms taken at thirty second intervals forty minutes after intraperitoneal introduction of 2 per cent iodine in a 2 per cent potassium iodide solution. Marked dilatation of small intestine.

hydrochloride was introduced into the splanchnic area on each side, the needle being inserted 3 cm. from the midline at the lower border of the twelfth rib. There was an immediate increase in the tone of the intestinal musculature, peristalsis, however, rapidly becoming less marked. At approximately 3:01 p. m. a marked increase in the muscular tone and peristaltic amplitude was noted.

17. Metge, E.: Erfahrungen und hundert Splanchnikusanesthesien nach Kappis. Deutsche Ztschr. f. Chir. **178**: 37-59, 1923.
18. Pal, J.: Zentralbl. f. Physiol. **4**: 338, 1890, cited by Markowitz and Campbell.
19. Kappis, M.: Erfahrungen mit Lokalanesthesie bei Bauchoperationen, Verhandl. d. deutsch. Gesellsch. **43**: 87-89, 1914.

At 3:03 p. m., the maximum amount of peristalsis had been reached. There was a gradual decline in the amplitude and also in the tone.

At 3:06 p. m. there was again a rise in the amplitude and also in the tone.

At 3:08 p. m. the intestinal activity had reached its peak.

At 3:10 p. m. there was a gradual decrease in both the tone and the amplitude of the intestinal musculature.

Fig. 5 (experiment 3).—Roentgenograms taken at thirty second intervals five minutes after induction of splanchnic anesthesia. Definite peristalsis as well as return of intestinal tone.

The ileus experiments were stopped at this point, in order that we might make some other observations, which will be reported in detail in another paper.

From these experiments it is to be seen that a splanchnic anesthesia will relieve a physiologic ileus. In a few of the other twelve dogs used in this series with splanchnic anesthesia in physiologic ileus, the amount of peristalsis following the introduction of procaine hydrochloride into the retroperitoneal space was not as striking as in the majority of the cases. Ether anesthesia evidently has a great deal of effect on the reaction of the individual to the splanchnic anesthesia, as evidenced by *C* of figure 2. This result is comparable to that obtained in experiment 2, with the one exception that the animal was operated on under ether instead of barbital anesthesia. It can be seen from the kymographic tracing that there was no normal peristaltic activity. Following splanchnic anesthesia, little evidence of intestinal activity was noted until after twenty minutes had elapsed. Then definite peristaltic movements in the intestines began, but less marked than those seen under local or under barbital anesthesia. Also in two animals operated on under local anesthesia, the amount of peristaltic activity was not as marked as that generally seen. It is possible that in these two cases the splanchnic fibers were not completely interrupted, even though there was a definite increase in the peristalsis. Probably, in order completely to block the splanchnics, it is more essential to get an intimate contact either with the ganglion or with the nerves themselves than is necessary in the ordinary splanchnic anesthesia, for it is possible that pressure alone may break enough of the sensory paths to produce satisfactory anesthesia.

CHEMICAL ILEUS

Five experiments were performed in the group of animals with chemical ileus.

EXPERIMENT 3.—January 17, at 2:12 p. m., a black, short-haired, male poodle, weighing 12 Kg., was given 20 Gm. of barium sulphate in a suspension of buttermilk by a stomach tube. Fluoroscopy immediately thereafter showed the barium to be in the stomach.

At 3:15 p. m., fluoroscopy showed part of the barium in the small intestine. The intestine was of normal size and showed evidence of definite peristalsis. Roentgenograms (fig. 3) were taken at this time at intervals of thirty seconds.

At 3:35 p. m., 5 cc. of 2 per cent iodine in a 2 per cent potassium iodide solution was injected intraperitoneally. The animal seemed quite restless following this procedure.

At 4:15 p. m., fluoroscopy showed marked dilatation of the loops of intestine. There was no evidence of peristalsis. Roentgenograms (fig. 4) were taken with a thirty second interval.

At 4:30 p. m., 10 cc. of a 1 per cent procaine hydrochloride solution was injected into the splanchnic area according to the technic of Kappis. The needle was introduced at the lower border of the twelfth rib, 3 cm. lateral to the midline.

At 4:35 p. m., fluoroscopy showed very marked peristalsis of the small intestine, with an increase in muscle tone. Roentgenograms (fig. 5) were taken with a thirty second interval.

At 6 p. m., fluoroscopy showed still some peristalsis, not as marked, however, as was seen at the previous observation. The loops of the intestine were very much more contracted, and presented a considerably different picture from that seen immediately following the introduction of the iodine and potassium iodide solution. Roentgenograms were taken at this time at intervals of 30 seconds (fig. 6).

Fig. 6 (experiment 3).—Roentgenograms taken at thirty second intervals thirty-five minutes after induction of splanchnic anesthesia. Marked increase in intestinal tone as well as definite peristalsis.

EXPERIMENT 4.—January 20, at 3 p. m., a white short-haired bulldog, weighing 16 Kg., was given through a stomach tube 4.5 Gm. of soluble barbital dissolved in 25 cc. of water.

At 3:30 p. m. the animal was drowsy. However, he tried to get up and walk around the cage.

At 4 p. m. the animal was sleeping and appeared to be anesthetic. The trachea was exposed and an intratracheal cannula introduced. This was connected by means of a rubber tube to a tambour registering on the drum. The left common carotid was isolated, and a cannula was inserted and connected with a manometer after the entire system had been filled with a 2 per cent citrate solution. Through a low midline incision a loop of ileum was brought up into the wound. A purse-string suture was introduced at the antimesenteric border; an opening was made, and through this opening a rubber tube, carrying a small rubber balloon, was introduced for a distance of about 12 inches proximal in the ileum. The purse-string suture was then closed and the abdominal wall closed by means of towel clips (fig. 7).

At 4:20 p. m. a normal tracing was made. There was little evidence of normal peristalsis. The animal was, however, quite far under the anesthetic, as evidenced by the respiratory rate, which was about 6 per minute.

At 4:25 p. m., 5 cc. of 2 per cent iodine in a 2 per cent potassium iodide solution was introduced intraperitoneally. There was an immediate fall in the tone of the intestinal musculature. After about three minutes, however, there was an apparent increase in the intestinal activity. The animal was also seemingly recovering from the anesthetic, as the respiratory rate had risen to 20.

At 4:55 p. m. an additional 5 cc. of 2 per cent iodine in a 2 per cent potassium iodide solution was given intraperitoneally. There was a preliminary increase in the tone of the musculature and slight increase in peristalsis.

At 5 p. m. there was no evidence of peristalsis. The intestine had seemingly lost practically all its tone.

At 5:12 p. m., splanchnic anesthesia was induced according to the method of Kappis. Twenty cubic centimeters of a 1 per cent procaine hydrochloride solution was introduced on each side, the needle being introduced at the lower border of the twelfth rib 3 cm. lateral to the midline. As soon as this procedure was finished there was an immediate rise in the tone of the intestinal musculature and a marked increase in peristalsis. After about a minute and a half the peristalsis decreased, to return, however, with a renewed vigor after an additional two minutes.

At 5:18 p. m., peristalsis was very marked, the most marked that it had been throughout the whole experiment.

A chemical ileus produced by injecting an irritating substance into the peritoneal cavity, such as iodine in potassium iodide solution, may be relieved by a splanchnic anesthesia. It is interesting to note that, in the series of cases in which a chemical ileus was so treated, a definite relationship could be made out between the time of injection of the irritating substance and the time at which the anesthesia should be induced. Usually if the anesthetic was introduced within the first two or three minutes after the introduction of the irritant, the effect produced by the anesthetic would be delayed and also reduced. This may be due to the fact that the anesthesia may be only temporary and enough chemical irritation is present in the peritoneal cavity to offset or neutralize any effect that the splanchnic anesthesia may have.

Fig. 7 (experiment 4).—Kymographic tracing showing effect of chemical ileus and its relief by splanchnic anesthesia. *T*, time; *B*, *P*, carotid blood pressure; *P*, peristalsis; *R*, respiration. Normal tracing shows some slight peristalsis. At 4:35 p. m. an intraperitoneal injection was given. A momentary decrease in muscular tone was followed by an unusual increase in peristalsis. At 4:50 p. m. a second intraperitoneal injection of 5 cc. of 2 per cent iodine in 2 per cent potassium iodide solution was given. A temporary increase in peristalsis was followed by loss of both tone and movement in the intestinal musculature. At 5:12 p. m., splanchnic anesthesia was followed by immediate rise in tone and definite peristalsis. This case was unusual in that the chemical irritant produced a temporary increase in intestinal activity.

MECHANICAL ILEUS

Six experiments were performed in the group of animals with mechanical ileus.

EXPERIMENT 5.—January 17, at 4:30 p. m., a pararectus incision was made under light ether anesthesia, and with sterile precautions in a long-haired brownish black male dog, weighing 9 Kg. The duodenum was found, pulled through the abdominal wound, and an obstruction produced by tying a piece of tape tightly around the intestine approximately 3 inches distal to the opening of the common bile duct. The abdomen was closed in layers.

January 18, at 2:35 p. m., 2 Gm. of soluble barbital dissolved in 30 cc. of water was given by stomach tube.

At 3 p. m. the dog did not even appear to be drowsy; he was walking about in the cage.

At 3:45 p. m. the dog was slightly drowsy but was far from being anesthetic.

At 4:15 p. m. the dog was somewhat more drowsy than previously but could be aroused.

At 5:10 p. m. the dog still was not anesthetic. It was decided to proceed with the experiment, using small amounts of ether. Under extremely light ether anesthesia the trachea was exposed and the tracheal cannula introduced. This was connected with a tambour. The left common carotid was isolated, and a cannula introduced and connected with a manometer. Through the old incision a loop of jejunum was brought up and after a purse-string suture had been placed on the antimesenteric border, a rubber tube carrying a rubber balloon was placed distally in the jejunum. The purse-string suture was then tightened. A normal tracing was made on the kymograph, as shown in figure 2*B*.

At 5:58 p. m. splanchnic anesthesia was induced according to the method of Kappis. Thirty cubic centimeters of a 1.5 per cent procaine hydrochloride solution was introduced into the retroperitoneal space, the point of the introduction of the needle being at the lower border of the twelfth rib about 3 cm. lateral to the midline. There was an immediate increase in tone in the intestinal musculature and also a definite and marked increase in the peristaltic activity. This

was continued for fifteen minutes, after which time it was still active. The experiment was discontinued.

EXPERIMENT 6.—In a short-haired white male dog, weighing 10 Kg., a low right rectus incision was made under sterile precautions and light ether anesthesia. An intestinal obstruction was produced at the terminal ileum just above the cecum by placing a ligature of heavy umbilical tape around the intestine and tying it tightly. The abdomen was closed in layers.

January 21, at 9:30 a. m., 3 Gm. of soluble barbital dissolved in 30 cc. of water was given by stomach tube.

At 10 a. m. the animal appeared drowsy.

At 10:30 a. m. the animal was sleeping quietly, but evidently was not anesthetic.

At 11 a. m., surgical anesthesia was satisfactory. The trachea was isolated and a tracheal cannula inserted, which was connected with a tambour. The left common carotid artery was freed and a cannula inserted which was connected with a manometer. The old abdominal incision was opened. A typical paralytic ileus was found. The intestines were markedly distended and dilated, presented a bluish discoloration, and were edematous and heavy. A purse-string suture was introduced about 18 inches above the obstruction at the antimesenteric border of the ileum. An opening was made into the intestine from which some foul smelling liquid material was evacuated. A rubber tube carrying a rubber balloon was introduced into the intestine extending toward the obstruction. It was placed about 12 inches above the latter. A normal tracing was made (fig. 8). There was no evidence of any peristalsis even with the abdomen closed. At the arrow an enterostomy tube was introduced just above the obstruction, following which another tracing was made.

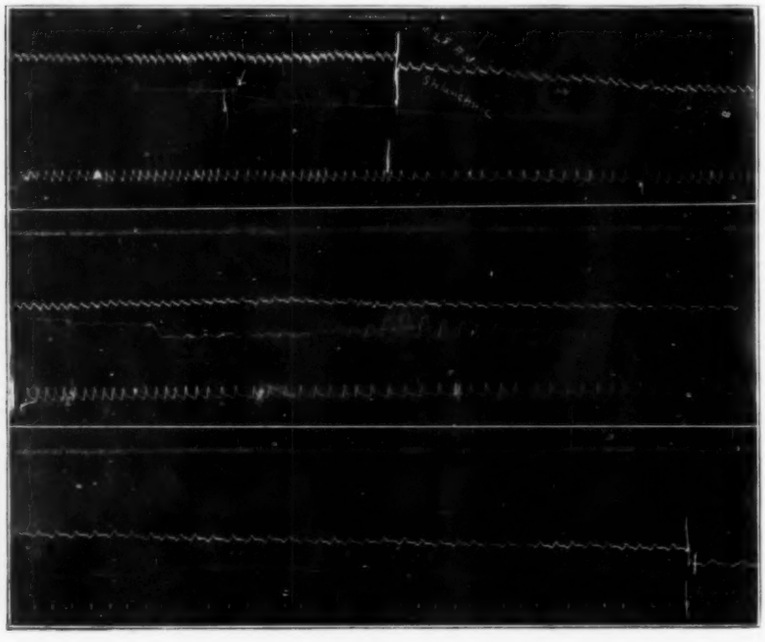

Fig. 8 (experiment 6).—Definite paralytic ileus as a result of continued low obstruction relieved by splanchnic anesthesia; low obstruction produced seventy-two hours previously. Normal tracing showed no intestinal movement aside from transmitted respiratory movement. At the arrow an enterostomy was performed just above the obstruction. At 11:28 a. m., splanchnic anesthesia was induced. An immediate increase in tone was noted, followed after about four minutes by active peristalsis. Periodicity of the intestinal movements was definite.

At 11:28 a. m., splanchnic anesthesia was induced according to the method of Kappis. Forty cubic centimeters of a 1 per cent solution of procaine hydrochloride was injected into the retroperitoneal space, the point of introduction being 3 cm. lateral to the midline at the lower border of the twelfth rib.

At 11:30 a. m. there was a slight increase in the tone of the intestinal musculature. This was progressive.

At 11:33 a. m. the tone was becoming more marked and there was evidence of incipient peristalsis.

At 11:35 a. m. there was very marked peristaltic activity.

At 11:38 a. m., peristalsis and tone were decreasing.

At 11:40 a. m. there was again an increase in the tone and also an increase in the peristalsis. The intestine was removed from the abdominal cavity and found to exhibit active peristalsis, as well as having definite increased tone. Periodicity of peristaltic activity was noted toward the end of the experiment, which was reached at 12:30 p. m.

In the first observation a high obstruction had been produced with a resulting toxemia. The dog had been allowed water and had vomited almost continuously for twenty-four hours. At reoperation the balloon was introduced at a point below the obstruction. There was peristaltic activity of the intestine before splanchnic anesthesia was produced. Following this anesthesia, however, peristalsis became very much more marked, as did also the increase of the intestinal tone. This animal did not have a paralytic ileus but was suffering from a toxemia incident to a high obstruction.

The second dog had a low obstruction with definite paralytic ileus; there was no evidence of intestinal movement. There was also an apparent loss of muscular tone. Following splanchnic anesthesia, and after a latent period of about two minutes, the tone of the intestinal musculature increased markedly, so that there was definite and active peristalsis of the involved intestine.

COMMENT

In view of the brilliant results reported in the literature concerning the effectiveness of spinal anesthesia in certain cases of ileus, one is justified in assuming that certain cases of ileus are the results of inhibitory impulses being supplied the intestinal musculature by way of the sympathetic system. Such cases should probably be classed as cases of paralytic or adynamic ileus. If the condition is due to an inhibition produced by the sympathetics, a blocking of the sympathetic nervous system should be of distinct value. Bayliss and Starling have shown that physiologic ileus may be abolished by resection of the splanchnics. Rosenstein and Köhler [20] found that introducing comparatively large amounts of procaine hydrochloride solution into the splanchnic area of rabbits produced peristalsis.[21] They felt that this amount was too large for clinical use. They employed nicotine both experimentally and clinically. Similar results were obtained with nicotine. In human beings they advised the use of a dose of from 3 to 5 mg. of nicotine, and favored the method of Kappis for introducing the solution, instead of the method of Braun (1) because it is not necessary to go through an infected peritoneal cavity in order to infiltrate the retroperitoneal space, and (2) because most of these cases are seen postoperatively. By means of the Kappis method it is not necessary to open the abdomen. Rosenstein and Köhler have used the method clinically in six cases.

In all probability similar results may be obtained either by the introduction of an anesthetic solution into the spinal canal or by blocking the splanchnics. As

20. Rosenstein, Paul; and Köhler, Hans: Therapeutische Versuche zur Bekampfung der Darmlaemung durch Umspritzung des Ganglion coelicum, Med. Klin. **22**: 530-533 (April 1) 1926.

21. This work was noted only after the completion of our experimental studies.

splanchnic anesthesia is generally a safer procedure than spinal, we feel justified in advising splanchnic anesthesia, done according to the method of Kappis, in those cases of paralytic ileus which may develop postoperatively or which are the result of a mechanical obstruction and do not respond following the relief of the obstruction. It is folly to assume that any such measure will be of any avail in case the obstruction is still present. Its use in such cases will only make the method fall into disfavor. That splanchnic anesthesia will produce peristalsis in physiologic, chemical and mechanical ileus we have demonstrated. Several points which have been brought out during the experimental work must be emphasized:

1. Even though physiologic ileus is considered by most investigators as being found invariably when the abdomen of an experimental animal is opened, we have found marked peristalsis in one case out of the twenty-five.

2. Intraperitoneal irritants (iodine and potassium iodide) in the abdominal cavity at times produce slight peristalsis immediately after injection, and a short time must elapse before the ileus is produced.

3. Splanchnic anesthesia produced immediately after the introduction of the chemical irritant into the abdominal cavity does not produce typical peristalsis. After a lapse of from fifteen to thirty minutes, splanchnic anesthesia will produce a characteristic picture of active intestinal movements.

SUMMARY

We believe that physiologic, chemical and paralytic ileus or mechanical ileus, following the relief of an obstruction, may be satisfactorily treated in the experimental animal by blocking the splanchnic nerves. The performance of the splanchnic anesthesia according to the method of Kappis is to be preferred clinically to an intraspinal anesthesia, which is not without danger. Labat,[22] on the other hand, in a very large series of cases of splanchnic anesthesia, has never noticed any untoward effects. The method may be of distinct value clinically in the so-called paralytic or adynamic ileus in which, in spite of drainage by means of an enterostomy, the toxemia persists because of the paralysis of the intestinal musculature, with an inability of the intestine to expel its contents. In a certain percentage of these cases at least, this condition is due to inhibitory impulses supplied the intestine by the sympathetic system. In these cases, blocking of the sympathetic system should be beneficial.

22. Labat, Gaston: Induction of Splanchnic Anesthesia, Ann. Surg. **80**: 161 (Aug.) 1924.

Credulity in Medicine.—Is not the doctor's first duty to find out what is wrong with his patient and why it is wrong, to make a diagnosis before he attempts to interfere by treatment? For this the keenest observation and the clearest reasoning are required. To my mind, the main object of the study of the preliminary scientific subjects is to give the student this training in observation and reasoning. The time is too short to allow the teacher to give the evidence on which general principles are based and therefore he must be didactic, and didactic teaching in science—teaching which requires the student to accept the authority of his teacher—is a blight. It simply fosters credulity, and credulity is the curse of the medical profession, in which it is far too rife. Were it not for this credulity how could the manufacturers of patent medicines, or pluriglandular hormones and of vitamins continue to flourish?—Paton, D. N.: *Edinburgh M. J.* **35**:3 (Jan.) 1928.

ENDOMETRIAL TUMORS IN ABDOMINAL SCARS*

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The occurrence of tumors resembling endometrial tissue in abdominal wounds has been reported infrequently. It is in these cases which appear to be the result of "seed implantation" of endometrial cells that the theory of direct transtubal dissemination of endometrium-like tumors throughout the pelvis has one of its strongest proofs.

The work of Sampson on the etiology of heterotopic endometrial tumors has brought forward many questions of fundamental importance. Acceptance of the transtubal dissemination theory has been general but recently objections have been raised (Novak, Ewing) which would seem to point out that tubal dissemination and implantation may account for only a relatively small percentage of the endometrial lesions of the female pelvis. These lesions occur in abdominal wounds. Heaney[1] reported two cases and reviewed seven others following operative procedures on the pregnant uterus. In all, twenty-nine cases have been reported, and in several cases the uterus was not interfered with in the course of the operation. It is, however, a most disquieting thought to the surgeon who plans a myomectomy, salpingectomy, ventrosuspension or fixation of the uterus to feel that he may be responsible for the development of a neoplastic lesion which may require even a laparotomy for its cure.

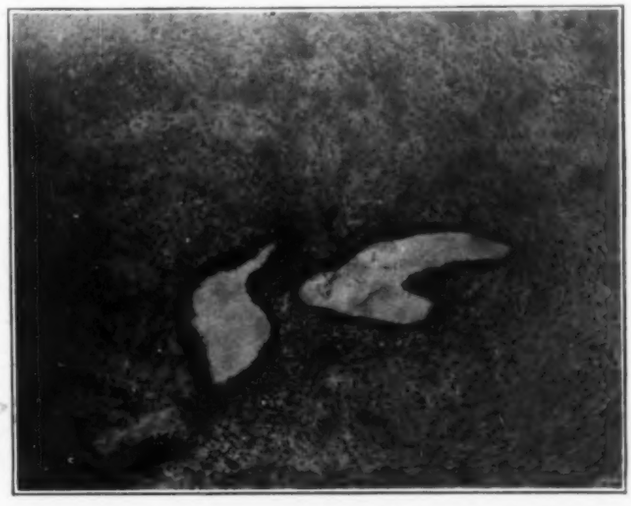

Fig. 1 (case 1).—Section showing gland spaces containing blood. There was evidence of response to menstrual stimuli. The patient gave a definite history of increase in the size of the tumor and also of pain at menstrual periods. Through and through fixation of the uterus with silkworm-gut sutures was performed eight years before admission. The conclusion that direct implantation was the cause of the tumor is almost inescapable in this instance. Slightly reduced from a photomicrograph with a magnification of 100.

The etiology of periodically painful adenomas in abdominal scars following cesarean section seems very clear on the basis of direct implantation of endometrial cells, and the remarkable thing is the extreme rarity with which such lesions have occurred. It is probably quite impossible to protect the wound edges and cer-

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1. Heaney, N. S.: Adenomas of Endometrial Origin in the Laparotomy Scar Following Incision of the Pregnant Uterus, Am. J. Obst. & Gynec. **10**: 625 (Nov.) 1925.

tainly the peritoneal surface from contamination by pieces of endometrium when the uterus is open, yet only in the lowest possible percentage of cases does adenomatous implantation occur in the wounds. Ventral fixation of the uterus, when the opportunity for successful transplantation is much less favorable, has

Fig. 2 (case 2).—Section showing bizarre glandlike spaces with little or no stroma. The uterus contained typical resting endometrium. The gland size and stroma variation was marked. Slightly reduced from a photomicrograph with a magnification of 100.

contributed most of the cases, the cells probably being carried on the needle and suture (Judd).

This suggests the thought that the capacity for growth in a new environment is of relatively low grade in the endometrium during pregnancy, while on the other hand growth occurs in scars under infinitely less "exposure" when the implanted cells are from nonpregnant endometrium. Novak has stated that tissue culture growth of "menstruating" endometrium is extremely

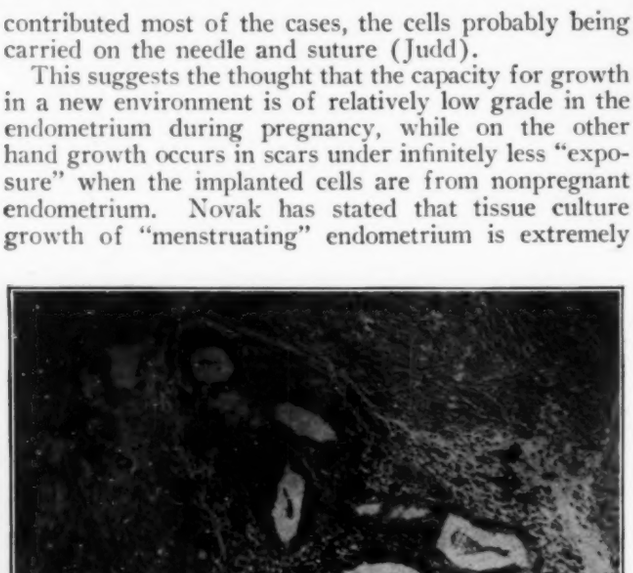

Fig. 3 (case 3).—Section showing glands containing blood in fairly abundant stroma. The last menstrual period began ten days before. Slightly reduced from a photomicrograph with a magnification of 100.

difficult if not impossible to obtain and it is safe to assume that, granting the fact that implantation endometriosis does occur, some other factor prevents implantation from being operative when the uterus is opened at cesarean section. In the series of "adenomyomas" of the abdominal wall reported from the Mayo Clinic,[2] six cases followed suspension operations and in none was the uterus disturbed during pregnancy. I am here presenting three cases showing typical endometrial lesions in abdominal scars.

REPORT OF CASES

CASE 1.—A white woman, aged 41, entered the hospital complaining of pain on defecation and pain in the lower part of the abdomen at the site of a former operative scar. This pain was much exacerbated just preceding and during the first day of catamenia.

She had had an appendectomy eleven years before, followed by peritonitis for which drainage was instituted. About eight years before she had had a fixation of the uterus, which was done with through and through silkworm-gut sutures. For several years she had noticed a lump in the lower portion of the suprapubic scar, which enlarged just previous to the menstrual period and became very sore.

Just at the bottom of the suprapubic scar was a nodule 2 by 1 cm., composed grossly of fibrous tissue with small glistening hemorrhagic areas.

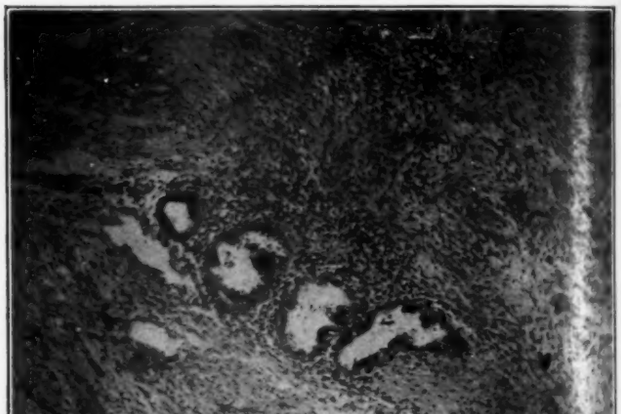

Fig. 4 (case 3).—Section showing glands with ingrowths. There was definite evidence of a "premenstrual" hyperplasia of the glands and the stroma was not so well developed. Slightly reduced from a photomicrograph with a magnification of 100.

Histologic examination showed that in a stroma of rather dense fibrous tissue with numerous areas of glands with a varying amount of regular stroma there were large glands containing blood lined with medium columnar epithelium. There was slight evidence of menstrual reaction with subepithelial infiltration of blood in several places in various glands. This case may be considered one of direct implantation, as there was a history of direct passage of silkworm-gut pieces through the wall (fig. 1).

CASE 2.—A colored woman, aged 20, entered the hospital, Sept. 6, 1927, complaining of pain in the left lower quadrant and above a midline incision scar, and of a palpable lump in the incision. A laparotomy had been done two years before for inflammatory disease, with salpingectomy and suspension of the uterus. A year and a half before, an abscess had been opened and drained in the immediate vicinity of the present mass. Since that time the patient had had very poor health, and for about one year she had had pain in the incision.

Pelvic examination revealed a marital outlet. The cervix was in good condition. The fundus was adherent to the anterior abdominal wall and there was a mass in the left side.

Laparotomy disclosed multiple adhesions and a large follicular cyst of the left ovary. Excision of the scar showed many areas containing dark brown coagulated fluid suggesting blood-containing cysts. The scar tissue was excised. Supra-

2. Lemon, W. S., and Mahle, A. E.: Ectopic Adenomyoma: Postoperative Invasions of the Abdominal Wall, Arch. Surg. **10**: 150 (Jan.) 1925. Mahle, A. E., and MacCarty, W. C.: Ectopic Adenomyoma of Uterine Type, J. Lab. & Clin. Med. **5**: 218 (Jan.) 1920.

vaginal hysterectomy and left oophorectomy were performed. Microscopic section at the time of the drainage of the abscess showed chronic granulation tissue. At operation the scar showed fibrous connective tissue containing small cavities filled with dark material.

Microscopic examination of the section showed a relatively small amount of stroma surrounding glands of rather bizarre

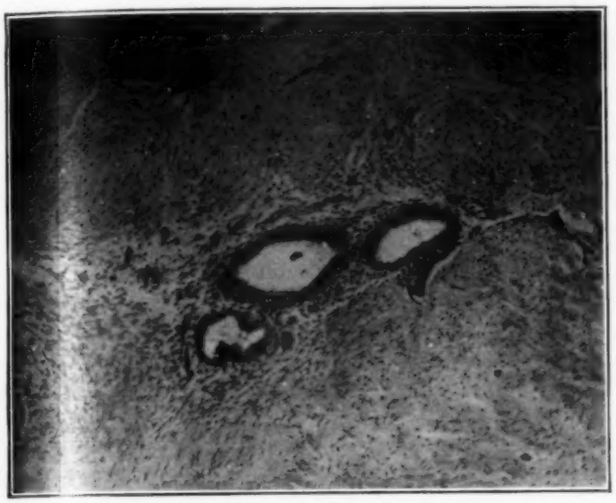

Fig. 5 (case 3).—Section showing slighter stroma development and no evidence of menstrual activity. Slightly reduced from a photomicrograph with a magnification of 100.

type, being composed of extremely low columnar epithelium, and varying tremendously in size. In other places there was a small amount of periglandular stroma. In a very few glands there was blood, many of the others not showing any evidence of menstrual rhythm. Figure 2 shows absence of periglandular stroma and diversity in gland size.

CASE 3.—In a patient entering the hospital, Sept. 4, 1927, a lump in the subcutaneous tissue near the upper end of a midline scar between the symphysis and the umbilicus had been noticed in May, about six months after a therapeutic abortion, which was performed as a miniature cesarean section, the uterus being emptied through a median anterior incision. This was about 1 by ½ inch, and tenderness was marked preceding and during menstrual periods.

The tumor was excised and removed with the fascia to which it was adherent. A specimen consisted of a bluish red ovoid polypoid mass of rubbery consistency, resting on a white fibrous tissue base. A section showed supporting strands of tissue radiating from the base, and the surface had a cauliflower-like appearance.

A section of the tumor taken from the operative scar consisted largely of fibrous connective tissue in which a number of glandular acini were seen lined with columnar epithelium. These acini occurred singly and in groups and were of varying size and shape, resembling, however, endometrial glands. Immediately surrounding these groups was, in most instances, typical endometrial stroma. The glands themselves were empty, excepting a few which contained a small number of red blood cells. The fibrous connective tissue stroma showed a diffuse area of hematogenous pigmentation. Other sections showed striated muscle and adipose tissue adjacent to the tumor mass. A diagnosis was made of endometrial transplant.

The gross tumor showed areas of blood which proved on histologic examination to be glands containing blood. Microscopically there were many areas showing subepithelial infiltration of blood. There were definite premenstrual changes apparent in certain of the glands (fig. 4), and yet in many glands in the same section (figs. 5 and 6) there was no marked evidence of menstrual reaction. The character of the glands varied from simple epithelial lined cavities in the tissue to complicated adenomatous structures which resembled endometrium exactly with characteristic stroma. Curettings from the uterus were of premenstrual type.

COMMENT

This case satisfies all the criteria of direct implantation. The uterus was opened directly and there was painful enlargement of the tumor at the menstrual periods. The same phenomenon has occurred when the abdomen was opened for other causes, however; viz., appendicitis. As Heaney points out, it is remarkable that it does not occur more frequently after cesarean section because the wound must always be contaminated with bits of mucosa. Yet it is of extreme infrequency.

The lesions appear months or years after the laparotomy, and the clinical history is fairly typical. The nodules swell and become tender at the time of menstruation and often appear as bluish blebs giving the appearance of an inflammatory swelling. Certain tumors have no relationship to the menstrual cycle but are uniformly tender at all times. Case 2 shows an atypical gland type with poor stroma development, and there was no history of menstrual tenderness in the tumor.

The cases in which these lesions occur after inflammatory processes in the abdomen in which the uterus was not opened do not admit of explanation as to etiology at present. Certainly no theory propounded at present explains them better than that of direct implantation of endometrial cells, if one will admit that there is a decreased tendency for endometrial cells from a pregnant uterus to grow successfully when deposited in a new environment. Neoplasms of endometrial origin are found only during the menacme, are controlled by irradiation either of roentgen ray or of radium sufficient to produce amenorrhea, and have been observed to regress fairly rapidly after bilateral oophorectomy. If careful bimanual examination does not reveal any other pelvic lesions suggestive of endometriomas, simple excision of the tumor may be deemed sufficient treatment for these lesions found in abdominal scars.

Fig. 6 (case 3).—In this portion of the tumor there was no evidence of stroma and there was only a simple cavity lined by low cuboidal cells surrounded by a dense fibrous stroma. This marked variation in the morphology of glands within the same tumor argues directly against the implantation origin of endometrial tumors, for mature endometrial cells may well be expected to produce a lesion more true to type even when implanted in alien soil. Slightly reduced from a photomicrograph with a magnification of 100.

SUMMARY

1. Endometriosis occurs in abdominal scars by direct transplantation of endometrial cells, which after a varying latent period form small tumors in this new habitat.

2. The frequent occurrence of these lesions after uterine suspension or fixation of various types suggests the advisability of care in using traction sutures perforating the uterine wall as a method of elevating the uterus, and of protecting as thoroughly as possible the wound edges and peritoneal surfaces when the uterus is incised or punctured by instruments. Even salpingectomy with resection of a wedge of uterine muscle at the cornua may scatter viable endometrial cells which may become implants.

3. Implantation endometriosis in cesarean wound scars is remarkably rare and suggests lower viability and tendency toward growth in the endometrial cells during pregnancy than during the nonpregnant state.

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PORTAL CIRRHOSIS ASSOCIATED WITH CHRONIC INORGANIC ARSENICAL POISONING

REPORT OF TWO CASES *

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The well recognized toxic effect of arsenic on the liver has been the source of great concern to those employing the substance therapeutically. The introduction of organic arsenic compounds in the treatment of syphilis has been accompanied by an increase in the prevalence of jaundice following the treatment, and it is difficult to escape the conclusion that arsenical injury of the liver is responsible for at least a part of this increase. The possibility that inorganic arsenical compounds may injure the liver has been almost disregarded in present-day consideration of the etiology of portal

Fig. 1 (case 2).—Keratosis of the palms.

cirrhosis. We shall review the literature on the subject and present two cases in which portal cirrhosis with ascites was associated with chronic arsenical poisoning.

The occurrence of general anasarca following the ingestion of arsenic is recorded in the writings of Bang [1] in 1774. Geyer,[2] in 1898, reported the occurrence of wholesale poisoning from arsenic at Reichenstein in Schlesien, and described in detail the cutaneous changes and polyneuritis which characterize the condition; he also mentioned the frequent association of serous effusion and ascites. In 1895 Hutchinson [3] reported, in a

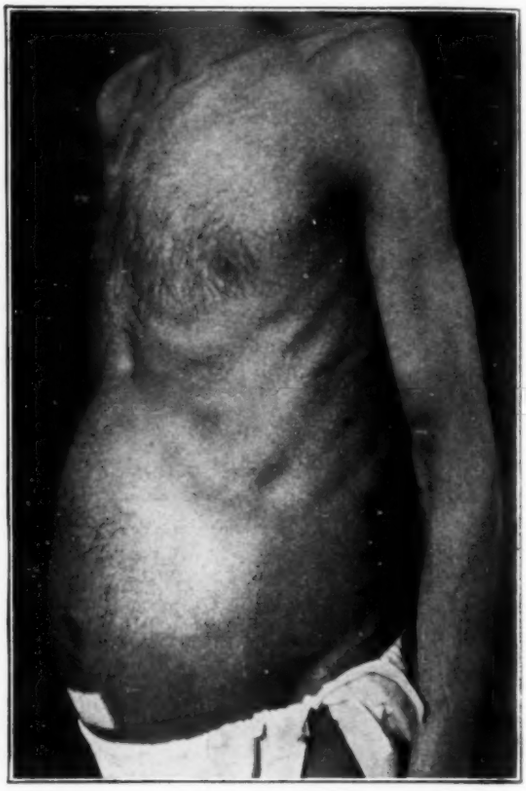

Fig. 2 (case 2).—Pigmentation and ascites.

patient who had used solution of potassium arsenite (Fowler's solution) for eight years in an attempt to control severe psoriasis, the occurrence of cutaneous pigmentation, palmar and plantar keratosis, and ascites of two years' duration. Abdominal paracentesis had been required on three occasions, but the ascites disappeared when the use of arsenic was discontinued. Hutchinson also cited cases of malignant pemphigus in which the use of large amounts of arsenic had been followed by ascites. During the celebrated Manchester epidemic of arsenical poisoning due to contaminated beer, both Reynolds [4] and Sturrock [5] noted the frequent complication of ascites, and both mentioned the occurrence of chronic hepatitis; enlarged tender livers were palpated during life and extensive hepatic changes were noted at necropsy. Reynolds was particularly impressed by the great increase in the number of cases of ascites observed at the time. Hamburger,[6] in 1900, reported a case of chronic arsenical poisoning with the usual clinical observations, and moderate ascites which

* From the Section on Dermatology and Syphilology and the Division of Medicine, Mayo Clinic.

1. Bang, F. L.: De hydrope ex ingesto arsenico observatio, Soc. med. Havn. collect. **1**: 307-309, 1774.

2. Geyer, L.: Ueber die chronischen Hautveränderungen beim arsenicismus und Betrachtungen über die Messenerkrankungen in Reichenstein in Schlesien, Arch. f. Dermat. u. Syph. **43**: 221-280, 1898.

3. Hutchinson, Jonathan: Diet and Therapeutics, Arch. Surg., London **6**: 389-391, 1895.

4. Reynolds, E. S.: An Account of the Epidemic Outbreak of Arsenical Poisoning Occurring in Beer Drinkers in the North of England and the Midland Counties in 1900, Lancet **1**: 166-170, 1901.

5. Sturrock, A. C.: The Epidemic of Peripheral Neuritis Traced to Arsenical Contamination of Beer-Making Materials: A Note on Certain Forms of "Beer Poisoning," Brit. M. J. **2**: 1815, 1900.

6. Hamburger, L. P.: Arsenical Pigmentation and Keratosis, Bull. Johns Hopkins Hosp. **11**: 87-91, 1900.

disappeared after purgation. In 1903, Broadbent [7] made the interesting observation that the serous effusions occasionally seen in Hodgkin's disease might be attributable to the arsenic commonly employed in the treatment of this disorder, and cited a case in support of this contention. Stockman,[8] in 1921, reported a case almost identical with that described by Hamburger; his patient had used arsenic as part of a bromide mixture continuously for six years. Rolleston [9] makes the statement that "arsenic seems to be capable of setting up cirrhosis of the liver," mentioning particularly the Manchester epidemic in support of this view. The two cases reported here tend to confirm this statement; because of their marked similarity to the previously reported instances of this condition, it is suggested that cirrhosis with ascites in association with chronic arsenical poisoning may be regarded as a clinical entity, perhaps of more frequent occurrence than has been suspected.

REPORT OF CASES

CASE 1.—A farmer, aged 52, first observed in November, 1926, had been complaining of abdominal distention for six weeks. The familial and marital histories did not have any bearing on the condition, and the patient was not addicted to the use of alcohol. He had gone through the usual infectious diseases of childhood, and influenza and pneumonia in 1918. In 1921 generalized dermatitis appeared, which was characterized by the formation of wheals, vesicles and blebs. The itching and burning caused extreme discomfort. Dermatitis herpetiformis had been diagnosed elsewhere but the disease had not been relieved. He had taken arsenic, which had been prescribed in one form or another for about four years; during one year he recalled taking solution of potassium arsenite in doses of 10 minims (0.6 cc.) three times daily. For some time before we saw him he had noticed pigmentation of the skin and "warty growths" on the palms and soles. In October, 1926, he was seized with cramplike pain in the lower part of the abdomen and general malaise; within forty-eight hours the abdomen began to increase rapidly in size; with the abdominal distention definite shortness of breath on exertion developed, but the pain subsided.

The patient was mildly dyspneic and emaciated. The skin of the trunk showed extensive speckled pigmentation of the arsenical type and there was marked arsenical keratosis of the palms and soles. The characteristic pigmentation of dermatitis herpetiformis was obscured by the arsenical pigmentation. Many excoriated plaques, papules, wheals and groups of vesicles and bullae were noted on the trunk and thighs. The pupils were regular and equal and the fundus oculi normal in appearance; the teeth were in poor condition and the tonsils were small and atrophic. The thyroid gland was not palpably enlarged and there were no enlarged lymph nodes except a small one in the left axilla. The heart seemed to be displaced upward but was otherwise normal; the lungs were clear except for slight dulness at both bases. The abdomen was greatly distended with fluid: no organs or masses could be made out. A few enlarged veins were observed over the lower part of the abdomen. There were no hemorrhoids of any consequence. The deep reflexes were normal and the genitals, extremities and rectum were normal. Urinalysis, blood counts, a blood Wassermann test and chemical studies of the blood were not productive of anything abnormal. The stools did not contain parasites or ova. A roentgenogram of the chest was negative except for thickened interlobar pleura on the lower right side.

A tentative diagnosis of dermatitis herpetiformis and portal cirrhosis due to chronic arsenical poisoning was made. Because of the possibility of abdominal carcinomatosis, however, it was decided to perform a biopsy on the lymph node from the left axilla, to be followed by abdominal exploration if the node did not prove to be malignant. The node was reported inflammatory by the pathologist. When the abdomen was opened a large quantity of clear yellowish fluid escaped; careful examination of the abdominal viscera was negative except for definite cirrhotic changes in the liver, which were described as being of the hobnail type. A Talma-Morrison operation was then performed, a piece of omentum being sutured into the space between the peritoneum and the posterior sheath of the right rectus muscle. The patient made an excellent recovery but returned for a second time in January, 1927, because of mild abdominal distention. The dermatitis herpetiformis had improved greatly. Ascites was only moderate, and in general the patient was quite comfortable. He was readmitted to the hospital, Jan. 3, 1927, for a trial of treatment with diuretics. Reexamination and repetition of the laboratory studies did not reveal any new abnormality. Tests of hepatic function with bromsulphalein were negative, and the serum bilirubin was normal in amount. Since the patient was anxious to return to his work, treatment was instituted at once, ammonium chloride being given in a dosage of 6 Gm. daily and three doses of merbaphen (0.5, 0.75 and 1 cc., respectively) being given intravenously on the first, third and fifth days. There was a satisfactory diuretic response, the patient losing 10 pounds (4.5 Kg.) in weight and the ascites disappearing promptly. Even with the abdominal cavity "dry," no enlargement of the liver or spleen could be made out. The bromsulphalein test when reported showed slight dye retention, graded 1.

After dismissal the patient had variable success in controlling the ascites for several months, but gradually this condition became less troublesome. Recently (Nov. 9, 1927) we received a letter from him in which he stated that he no longer had any swelling of the abdomen. Except for the persistence of the dermatitis herpetiformis, he apparently had made excellent progress.

CASE 2.—A farmer, aged 41, was admitted to the Mayo Clinic, April 30, 1927, complaining of weakness, extreme fulness and distress in the abdomen, and diffuse pigmentation of the body. The family history was unimportant, and the previous history was essentially negative. He had been a moderate user of tobacco and had used very little alcohol, none in the previous four or five years and only rarely before that time. The patient had been employed in a copper smelter from 1913 to 1921. He stated voluntarily that the vegetation in the community was sparse because of the irritating fumes produced in the smelting process. During the last few years of his work in the smelter he had noticed that his eyes watered and that there was some swelling of the lids, especially noticeable in the morning. In 1918 he had suffered from burning pains in the soles of the feet and similar discomfort in the calves of the legs, which appeared at intervals and finally caused him to give up his work and start farming. He remained on the farm from 1921 to the time of his admission. In 1922, because of slight persistent pain in the feet and slight weakness, he was advised to take solution of potassium arsenite, which he did for about three months, in doses of 5 minims (0.3 cc.) four times daily. This made his eyes water and he discontinued it. He continued with farm work without especial complaints, except that he did not seem to be as strong as he thought he should be. In April, 1926, he again began the use of solution of potassium arsenite four times daily, and continued this for one year. Shortly after he began the use of this solution for the second time, he noticed slight pigmentation about the body but did not pay any particular attention to it. This pigmentation gradually became more and more prominent, and associated with it he noticed what he called "calluses" on the palms and soles. Two months before admission he began to notice definite anorexia and gradually swelling of the abdomen. As a result, he stopped the solution of potassium arsenite but the swelling of the abdomen continued and soon he noticed swelling of the ankles also. About two weeks before admission a large amount of clear fluid was withdrawn by abdominal paracentesis. When the fluid reaccumulated, he presented himself for examination.

The patient was somewhat underweight with marked ascites and moderate edema of the lower part of the legs. There was diffuse, mottled brownish pigmentation of the "rain-drop" type over the entire body; it was more marked over the trunk and especially around the axillae, the neck, the anterior aspect of the chest and the genitalia. Figure 2 illustrates the extent of

7. Broadbent, Walter: Hodgkin's Disease and Arsenical Poisoning, Brit. M. J. **1**: 1140-1141, 1903.
8. Stockman, Ralph: Chronic Arsenic Poisoning, Edinburgh M. J. **27**: 1-10 (July) 1921.
9. Rolleston, H. D.: Diseases of the Liver, Gallbladder and Bile Ducts, London, Macmillan Company, 1914.

the pigmentation and the ascites at the time of admission. There was a mild degree of pigmenation in the mucous membrane of the mouth, a not unusual condition in arsenical pigmentation. There was marked arsenical keratosis of the palms and soles extending over the dorsum of the hand in some areas (fig. 1). The heart was normal in size, and no abnormalities of cardiac action were detected. The lungs seemed entirely normal. The blood pressure was 110 systolic and 70 diastolic. The abdomen was markedly distended with fluid. A few collateral venous channels were visible. The ascites prevented the possible palpation of organs or masses. Complete neurologic examination was entirely negative except for some tenderness in the calves, which, when considered with the history of ingestion of arsenic, suggested the possibility of arsenical neuritis. Urinalysis and a blood Wassermann test were negative. Hemoglobin was 70 per cent (Dare); erythrocytes numbered 3,940,000 and leukocytes 8,600. The blood urea and creatinine values were normal. A phenolsulphonphthalein test showed 50 per cent return of the dye in two hours; an electrocardiogram did not show any changes of significance. A test of hepatic function performed with bromsulphalein showed absence of dye retention; the serum bilirubin was 0.5 mg. for each hundred cubic centimeters. The same tests repeated three weeks later showed dye retention, graded 1, but no change in

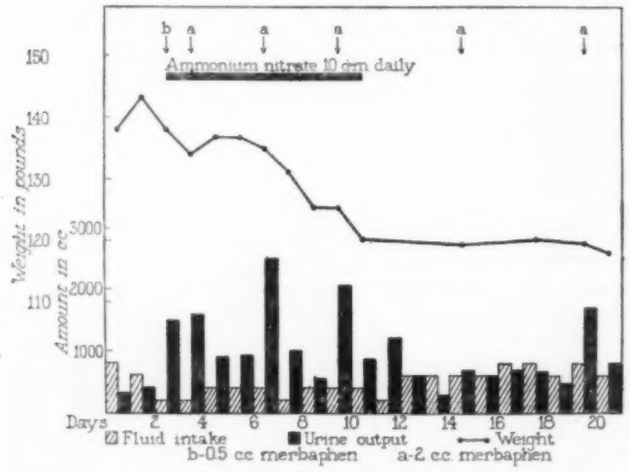

Fig. 3 (case 2).—Effect of diuretic treatment on arsenical cirrhosis.

the serum bilirubin content. The fasting blood sugars and dextrose tolerance tests were within normal limits. Urine specimens examined nearly every day were positive for arsenic, there being on an average about 10 mg. of arsenic for each thousand cubic centimeters of urine.

The treatment instituted consisted of a low-salt, low-fluid type of diet, ammonium nitrate by mouth in doses of 6 Gm. daily, and injections of merbaphen intravenously at intervals. Figure 3 shows the fluid balance and the response to this treatment. The satisfactory diuretic response and gradual loss of weight coincided with complete disappearance of edema and ascites. At the conclusion of treatment we could distinctly feel a sharp liver edge 6 cm. below the costal margin on deep inspiration; the spleen was not palpable. In a small piece of skin removed from the axillary fold the Osborne[10] stain revealed granules which we have considered to be arsenic sulphide. Mallory's[11] iron stain showed also deposits of hemosiderin about the sweat glands.

The diagnosis was arsenical dermatitis, cirrhosis of the liver with ascites (probably due to arsenic) and probably a mild degree of hemachromatosis. Since the urine still contained a considerable amount of arsenic, a course of sodium thiosulphate was indicated as a possible means of increasing the elimination of arsenic and thus protecting the liver, especially, against further injury. This drug was given intravenously in doses of 1 Gm. on each of ten successive days. During the first half of this period the amount of arsenic in the urine was definitely increased and then the excretion gradually fell to the previous constant level. The patient was dismissed, June 9, feeling much stronger, free from edema, and without demonstrable free fluid in the abdomen.

Recent letters from the patient have been very encouraging. He states that the ascites has not reappeared, that the skin discoloration is slowly fading, and that he has gained in weight and strength and "feels fine." He has not required any medication to prevent the recurrence of ascites during the last four months.

COMMENT

The ability of arsenic to produce extensive hepatic injury has long been recognized, and it has also been recognized that the liver may store arsenic in chronic poisoning. The exact pathologic changes which lead to portal obstruction and ascites are not fully understood. Sollmann[12] states that arsenic acts like phosphorus in producing hepatic degeneration of the fatty type and adds that these changes are more pronounced in poisoning with inorganic arsenic than with organic preparations. Ullmann[13] makes a similar statement, noting that the most marked necrotic changes occur about the central veins. In the Manchester epidemic the livers examined at necropsy presented the picture of "chronic interstitial hepatitis"; in case 1 of our series a hobnail type of liver was noted at operation. In Broadbent's case there was a mixed form of intralobular and intracellular cirrhosis. No doubt the areas of fatty degeneration and necrosis are replaced by connective tissue, eventually producing obstruction of the portal radicles and subsequent ascites.

Our two cases present striking clinical pictures. A handshake and a glance at the patient's waist line aroused suspicion in case 2; the detection of arsenic in the urine in abnormal amounts, and the enlarged liver and collateral venous channels on the abdominal wall served to explain more clearly the etiology and pathology of the disease. In this case the lesions of the skin were of great interest because of the patient's long exposure to both arsenic and copper. The significance of the hemachromatosis is not entirely clear, although the work of Mallory, Nye and Parker on the relation of copper poisoning and hemachromatosis furnishes a likely explanation. Clinically a diagnosis of hemachromatosis could hardly be made with certainty in view of the normal fasting blood sugar and the entirely normal response to the dextrose (100 Gm.) tolerance test. If the enlarged liver and the ascites in this case were the result of hemachromatosis, more extensive hemosiderosis should certainly be expected than we have been able to demonstrate and also some disturbance in carbohydrate metabolism. We feel justified in concluding, therefore, that the mild hemachromatosis is an interesting but incidental manifestation.

The tests of hepatic function in both cases did not at first show abnormality, but on repetition slight retention of dye was found. Apparently the tests had definite prognostic significance in this connection. Rowntree[14] states that most cases of cirrhosis of the liver and ascites in his experience have shown considerably more evidence of retention of dye with brom-

10. Osborne, E. D.: Microchemical Studies of Arsenic in Arsenical Pigmentation and Keratosis, Arch. Dermat. & Syph. **12**: 773-788 (Dec.) 1925.

11. Mallory, F. B., and Wright, J. H.: Pathological Technique: A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performances of Autopsies and for Clinical Diagnosis by Laboratory Methods, ed. 8, Philadelphia, W. B. Saunders Company, 1924.

12. Sollmann, T. H.: A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology, Philadelphia, W. B. Saunders Company, 1926.

13. Ullmann, K.: Experimentelles zur Arseniwirkung auf die Organe, Wien. klin. Wchnschr. **27**: 838-843, 1914; The Various Effects Produced by Subcutaneous or Intravenous Injections of the Several Arsenical Compounds on the Liver, Urol. & Cutan. Rev. **18**: 519-526, 1914.

14. Rowntree, L. G: Personal communication to the authors

sulphalein than these two and there has generally been far more difficulty in controlling the ascites. A favorable response to treatment with the newer diuretics (merbaphen and ammonium nitrate) was noted in both cases, and in both there has been little difficulty in keeping free from ascites. It is interesting to note that, of the cases cited in the literature, recovery occurred in both Hamburger's and Hutchinson's cases on discontinuance of the use of arsenic, and Bang's patient improved on treatment with pills containing ammonium salts and squills. These facts would seem to indicate that in this group of cases marked and lasting improvement may occur when the arsenic is eliminated and proper treatment instituted, even after there has been considerable injury to the liver, as in case 1, in which a hobnail type of liver was described by the surgeon. Apparently the therapeutic indications are fully met by saline purgatives, diuretics, restricted fluid intake and the avoidance of arsenic, either as medication or as an occupational hazard. The use of sodium thiosulphate is also advisable.

SUMMARY

In two cases of chronic arsenical poisoning, after the cutaneous changes were well established, ascites and other signs of portal cirrhosis appeared. It is suggested that such cases represent a clinical entity; they may be described as arsenical cirrhosis. The changes known to occur in the liver in arsenical poisoning, the appearance of the liver at operation in one of the cases described and the occurrence of similar cases in epidemic arsenical poisoning may be cited in support of this view. A favorable response to treatment was noted in both cases.

DEXTROSE-INSULIN TREATMENT OF SHOCK*

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Thalhimer [1] in 1923 first used insulin in the treatment of postoperative acidosis, reporting at that time three cases successfully treated by the use of dextrose and insulin, with an almost immediate cessation of acidosis and vomiting. Fisher and Snell [2] later successfully treated three cases of preoperative acidosis by the same method, with results which seemed to show a specific action of dextrose and insulin, more effective than dextrose alone.

As a result of the excellent results obtained in these cases, Fisher conceived the idea of treating cases of surgical shock by this method. In 1925 he [3] reported five cases of postoperative shock treated by dextrose intravenously and insulin subcutaneously with a rapid cessation of the typical symptoms of surgical shock. He was convinced at this time that the treatment seemed more rapid and certain than methods tried heretofore, and advised it as a specific method of treatment in cases of shock. The rationale of this treatment, he explains, rests on the fact that cases of shock, whatever may be the cause, all show much the same clinical picture with evidence that the entire system is in a state of exhaustion. To overcome this exhaustion a source of energy is needed which will rapidly and readily give up energy to the dying cells. As shown by Ringer,[4] insulin will oxidize dextrose, and since dextrose alone cannot be used by the body in its apparently dying condition, the addition of insulin causes a rapid oxidation of the dextrose administered, supplying the energy so sorely needed.

Fisher [5] later reported the further use of this treatment in cases of shock, with results which seemed more satisfactory than those obtained with the usual methods used in his clinic before the institution of this treatment. He laid particular stress on its use in postoperative conditions, and all of the specific cases he reported were cases of surgical shock. Ginsberg [6] later successfully treated a case of traumatic shock by dextrose and insulin, and confirmed Fisher's work.

In the First Surgical Division of the New York Hospital this method has been used for the past eighteen months in the treatment of shock. Successful results have been obtained which seem convincing that this treatment is a valuable addition to the methods of combating traumatic and surgical shock.

As shown in the accompanying case records, forty patients have been treated by this method. There were eighteen with traumatic shock, all showing severe clinical signs. Twelve cases of postoperative shock were treated by this method. The remaining ten cases I have chosen to call antemortem shock. This group includes moribund patients evidently dying of an apparently hopeless condition.

TRAUMATIC SHOCK

The most striking results were obtained in cases of traumatic shock, and I do not know of any other similar reports of the results of this treatment in this type of shock. The value of dextrose and insulin is therefore emphasized in this group of cases.

Of the eighteen cases, nine showed a remarkable improvement, with a cessation of the symptoms of shock, a rise in blood pressure and distinct improvement in pulse quality. All of these nine patients lived, some requiring a second administration of the treatment for secondary shock. The best results were obtained when the patient was treated soon after the onset of shock. In all the patients the other usual measures to combat shock were of course used, such as the application of external heat and placing the patient in the shock position. It seemed apparent that these cases showed a more rapid and striking response to this treatment than similar cases treated with saline or dextrose injections alone. In a few of these cases, as cases 1 and 2, I feel that this treatment has been a life saving measure. In these two cases a rapid improvement in the pulse rate and blood pressure accompanied the clinical improvement.

CASE 1.—A man, aged 44, admitted in moderate shock after having been struck by a locomotive, was apparently not in an alarming condition on admission, but in two hours he went into severe shock with all the clinical signs of approaching death. The blood pressure, which had fallen to 78 systolic and 50 diastolic in the two hours since his injury, suddenly fell to 52 systolic and 44 diastolic as he went into shock. Dextrose-insulin was immediately administered and in forty minutes the clinical signs of severe shock had disappeared, the blood pressure rose, and the pulse improved markedly. The patient again went into shock four hours later, and again a marked improve-

* From the First Surgical Division of New York Hospital, Service of Dr. Charles L. Gibson.

1. Thalhimer, William: Insulin Treatment of Postoperative (Nondiabetic) Acidosis, J. A. M. A. **81**: 383 (Aug. 4) 1923.
2. Fisher, David; and Snell, M. W.: Insulin Treatment of Preoperative and Postoperative Nondiabetic Acidosis, J. A. M. A. **82**: 699 (March 1) 1924.
3. Fisher, David; and Mensing, E.: Surg. Gynec. Obst. **40**: 548-555 (April) 1925.
4. Ringer, M.: J. Biol. Chem. **58**: 483 (Dec.) 1923.
5. Fisher, David: Surg. Gynec. Obst. **43**: 224-229 (Aug.) 1926.
6. Ginsberg, George: Use of Insulin in a Case of Acidosis Following Trauma, J. A. M. A. **82**: 1517 (May 10) 1924.

ment was obtained with the use of dextrose-insulin. It is interesting to note that in this case, as in others in this series, when the systolic blood pressure fell to a point near 80 there was a sudden drop, with onset of severe clinical symptoms indicating a critical condition. Cannon[7] has observed this experimentally, and states that this "critical level" of the blood pressure is approximately from 80 to 90 systolic. From these observations it may be concluded that a patient in moderate shock, with a falling blood pressure, should be treated immediately before the blood pressure has reached this "critical level."

CASE 2.—A boy, aged 10, severely injured by a motor truck, was in extreme shock on admission, evidently on the point of death. The pulse was not palpable; the skin was cold, moist and white, and the patient was semicomatose, restless and moaning. The blood pressure was 90 systolic and 18 diastolic. Immediate shock treatment was instituted with striking results. The symptoms of shock disappeared rapidly, and after 800 cc. of fluid had been introduced intravenously, the patient was rational, the pulse palpable and of good quality, the skin warm and pink, and the blood pressure 100 systolic and 50 diastolic. Five hours later the patient again went into shock and after a second administration of dextrose-insulin gratifying results were again obtained.

It is interesting to note in this connection that several of the patients with traumatic shock developed a secondary shock several hours after apparent improvement, necessitating further shock treatment, the results of which were, on the whole, gratifying.

Four of the patients with traumatic shock showed a marked immediate improvement, in that they were relieved of the symptoms of shock but died several days later of other causes. These results in these cases are considered satisfactory, as the shock was successfully combated. The two remaining patients showed a temporary improvement of greater or less extent but died several hours later as a result of the original injury with its accompanying shock.

In this series it was found that in most cases a favorable reaction was observed usually after the injection of 800 cc. of the infusion. If favorable results were not obtained by the time this amount of fluid had been injected into the vein, in about forty minutes, no improvement could usually be expected. It has been the experience in this series that 1,000 cc. is the optimal dosage, a larger amount not being necessary and at times, perhaps, dangerous.

POSTOPERATIVE SHOCK

Twelve cases of postoperative shock were treated by the administration of dextrose-insulin. The results are not as striking as those obtained in the preceding group of cases, but the treatment seemed more rapid and effective than the usual intravenous therapy with saline or dextrose solution alone. I have examined a similar series of forty cases of shock treated by methods used heretofore, but have found it impossible to compare results, since the degrees of shock vary greatly and are not in proportion to the extent of the injury. Methods of estimating comparative degrees of shock are obviously impossible, and the results obtained from various methods of treatment are here compared only by clinical observation.

Five of the patients with postoperative shock showed a marked improvement in that there was cessation of the symptoms of shock; all improved rapidly and lived. Five of the patients responded to the treatment so far as the successful combating of immediate shock was concerned but died later of other complications. Two showed only a slight temporary improvement and died several hours later, evidently as a result of the original condition and the following shock.

ANTEMORTEM SHOCK

Antemortem shock is used to designate that group of moribund patients obviously dying of a severe constitutional condition. Their symptoms are not those of shock, in the proper use of the term, but the condition seems somewhat comparable, in that the entire system is in serious need of energy.

Ten cases of this type were treated by the dextrose-insulin infusion, and, as was to be expected, beneficial results were not obtained. This group includes several cases of terminal general peritonitis, two cases of pulmonary embolism, one of thyrotoxicosis and one of late intestinal obstruction.

TECHNIC OF METHOD

In the surgical service there is on hand at all times a solution of dextrose especially prepared for administration by vein or under the skin. Immediately on admission, patients with traumatic shock are given 1,000 cc. of 5 or 10 per cent dextrose solution intravenously. The infusion is allowed to run into the vein slowly, so that the whole amount is administered over a period of one hour. Insulin is given at the rate of 1 unit (U-20) to 3 Gm. of dextrose, subcutaneously. The total amount of insulin is given in two equally divided doses, one fifteen minutes after the beginning of the infusion and the second at the end of the infusion.

Clinical improvement is noted during the administration of the treatment, the blood pressure and the pulse rate being recorded at the beginning and at the end of the infusion. The solution is kept at the required temperature (110 F.) throughout the infusion, and the patient is watched carefully for reaction of any kind. No ill effects from the use of insulin have been experienced in this series. Although it is sometimes difficult to secure specimens of urine at the required times, most of these patients have shown traces of sugar, or more than traces, in the urine following the infusion, indicating that the amount of insulin used is not in excess. It has been found in patients suffering from a severe infection that more insulin is needed to take care of the injected sugar, and in this series some patients of this type were given 1 unit of insulin for every 2 Gm. of dextrose without ill effects, and with traces of sugar in the urine following the treatment.

SUMMARY

1. The use of dextrose intravenously with insulin subcutaneously in the treatment of shock gives results which, in this series, seem more satisfactory than those obtained in cases treated by saline or dextrose solution alone.

2. Cases of traumatic shock treated early respond most readily to this treatment.

3. Cases of postoperative shock treated in this manner show marked improvement.

4. The optimal dosage is 1,000 cc. of 5 or 10 per cent dextrose with 1 unit of insulin to 3 Gm. of dextrose. Beneficial results are usually apparent after 800 cc. of fluid has been injected.

5. Cases of shock in which the blood pressure is decreasing toward the "critical level" (80 to 90) should be treated immediately before the rapid fall which usually follows, with symptoms of severe shock.

1045 Park Avenue.

7. Cannon, W. B.: Traumatic Shock, New York, D. Appleton & Co., 1923.

SCURVY WITH REFERENCE ESPECIALLY TO ADULTS

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BOSTON

The first case of scurvy in an adult that I remember having seen was shown me in 1922 at the Massachusetts General Hospital. It was a typical case in an American youth, aged 22, who gave a clear history of dietary eccentricity. A second case in an elderly man was diagnosed soon after at the same hospital. During the following year (1923) at the Boston City Hospital, the Service for Tropical Diseases was asked to make an examination for intestinal parasites in a woman, aged 63, who had been born in Sweden. She had a profound anemia and extensive ecchymoses on the legs. A diagnosis of pernicious anemia was being considered. When the search for intestinal parasites had proved fruitless, the diagnosis of scurvy was suggested and was at once accepted by the physician in charge. He kindly consented to transfer the patient to the service for Tropical Diseases (case 2).

TABLE 1.—*Massachusetts General Hospital Cases By Five Year Periods and by Age Groups*

Years of Age, Periods	0–2	2–10	10–20	20 and On	Totals
1891-1895	..	..	..	4	4
1895-1900	..	..	..	2	2
1900-1905	..	..	..	..	..
1905-1910	3	..	..	..	3
1910-1915	8	..	..	1	9
1915-1920	9	2	..	..	11
1920-1925	10	..	..	4	14
1925-1927 inclusive	10	..	1	3	14
Totals	40	2	1	14	57

A few months later the same physician diagnosed a second case (case 3) and, shortly afterward, a third (case 4) was recognized on another service. The third case was transferred to the Service for Tropical Diseases. This service has had a special interest in scurvy because of its relatively frequent occurrence under the unhygienic conditions still commonly found in the tropics and subtropics.

Discovery of the cases mentioned indicated the probability that scurvy in adults had been overlooked here, and the possibility that it might not be a rare disease in Boston.

The attention of the staff having been drawn to the disease by the recognition of cases, it was expected that within a few years material would accumulate in sufficient amount to justify analysis. This expectation has been realized.

RECOGNIZED INCIDENCE OF SCURVY

The data on which this study is based were derived from personal observation of a few cases and from the records of other cases which were treated at the Boston City Hospital or at the Massachusetts General Hospital. I am much indebted to the management of these hospitals and to certain members of their visiting staffs for permission to make use of their records.

The diagnosis catalogue of the Massachusetts General Hospital was started in 1872. The first case of scurvy which it records was in a man, aged 27, in the year 1891. The first infantile case was recognized there in 1905.

At the Boston City Hospital the diagnosis catalogue dates from June, 1915. It records infantile scurvy during that year and in subsequent years but no scurvy in adults until 1923.

The total number of cases on which the tables are based is ninety-five, of which thirty-eight are from the Boston City Hospital records and fifty-seven from the records of the Massachusetts General Hospital.

TABLE 2.—*Number of Cases of Scurvy in Adults (i. e., Over Twenty Years of Age) Diagnosed at Two Hospitals During the Period from 1923 to 1927, Inclusive*

Years	Hospital	
	Boston City	Massachusetts General
1923	3	2
1924	1	..
1925	2	2
1926	9	1
1927	2	..
Totals	17	5

Table 1 shows the number of cases of scurvy at the Massachusetts General Hospital in children and in adults by age groups and by five year periods. There was a decided increase in the number of cases of scurvy recognized after 1920, but the great majority of them were in infants under 2 years of age. There was no consistent increase in adult cases after 1920.

Table 2 contrasts scurvy in adults at the two hospitals from the year 1923 onward. There was a marked increase at the Boston City Hospital in the diagnosis of scurvy in adults in the year 1926, but this was not maintained in 1927. Adult scurvy at the Massachusetts General Hospital, on the other hand, showed no increase in 1926. Statistics of unemployment and of the number of persons dependent on charity in 1926 do not reveal any unusual amount of distress during that year.[1] Therefore, the relatively large number of cases recognized at the Boston City Hospital during 1926 probably does not indicate any unusual prevalence of scurvy in the community at that time.

TABLE 3.—*Admission Dates by Months of All Patients Over Twenty Years of Age* *

Month	Male	Female	Total
January	1	..	1
February	1	1	2
March	3	..	3
April	6	1	7
May	4	..	4
June	3	1	4
July	3	1	4
August	1	1	2
September	..	..	..
October	4	..	4
November	..	..	..
December	..	..	..
Totals	26	5	31

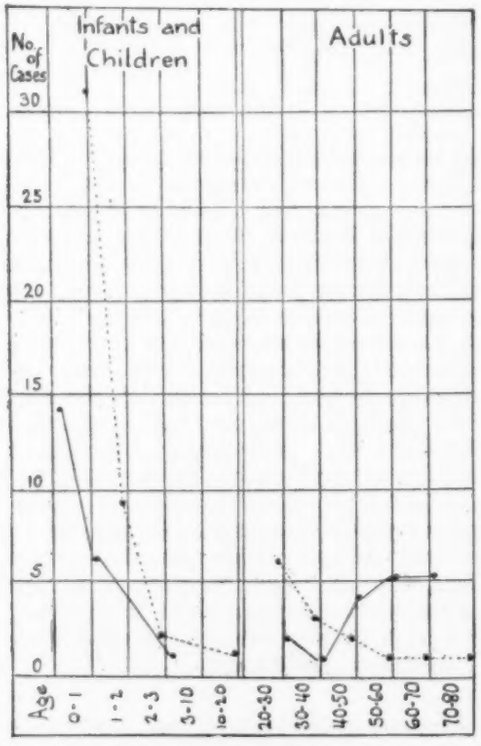
* From March to July, inclusive, twenty-two patients, or 71 per cent, and during the remaining months of the year nine patients, or 29 per cent, were admitted. The duration of symptoms before admission to the hospital varied from two to eight weeks, with an average of 3.7 weeks. The average onset of symptoms, therefore, was nearly a month before the admission date.

The accompanying chart contrasts the incidence of scurvy as diagnosed in infants and children by years of age, and in adults from 20 years of age onward, by decades.

1. Figures were kindly furnished by Mr. Stockton Raymond of the Family Welfare Society of Boston.

The relative frequency of cases in children under 2 years of age is very striking. Between the ages of 2 and 20 years cases were very few. The numbers increased sharply in early adult life at the Massachusetts General Hospital and in later adult life at the Boston City Hospital. The average age of the adults seen at the Massachusetts General Hospital was 38, but at the Boston City Hospital it was 60. These disparities in the adult groups probably reflect differences in clientele. The city hospital receives a larger proportion of elderly derelicts than does the Massachusetts General Hospital.

The adult groups from the two hospitals have been combined and analyzed chronologically and by sex in table 3. The table indicates, first, a very large preponderance of men over women (twenty-six men to five women), and, secondly, a seasonal distribution of cases.



Incidence of scurvy in all cases: solid line, Boston City Hospital; broken line, Massachusetts General Hospital.

Seventy-one per cent of the patients were admitted in the five month period from March to July, inclusive, and 29 per cent during the seven remaining months of the year.

CHARACTERISTICS OF ADULT CASES FROM BOSTON CITY HOSPITAL

Analysis of the Boston City Hospital group of seventeen adult cases shows that recognizable symptoms of scurvy developed from two to eight weeks before the patient was admitted to the hospital. The average was 3.7 weeks. The onset of symptoms on the average can therefore be placed at nearly a month before the date of admission to the hospital; and, consequently, scurvy seems most often to develop here between early February and the end of June.

The past histories of these patients showed one case of tabes, one case of hemiplegia of long standing, perhaps of scorbutic origin, and one case of epilepsy. Four patients seem to have had attacks of scurvy from one to five years previously which were not recognized at the time. One of them (case 5) had two such attacks. A fifth patient was readmitted to the Boston City Hospital one year after the first recognized attack. She then showed atypical signs suggestive of both scurvy and pellagra but a definite diagnosis was not made (case 2).

Occupation per se seems not to have had an influence on the occurrence of the disease. On the other hand, only three of the men can be classified as skilled laborers, and life on a low economic level undoubtedly played an important part in the development of most of these cases of scurvy. One man was eating only two meals a day, and another for a long time had spent only 50 cents a day for food.

The mode of life of these patients shows extraordinary similarity. Eight of them were single, eight were widows or widowers and one had separated from his wife. All of them had lived alone[2] for long periods, getting cheap meals in restaurants or preparing meager repasts in their rooms.

DIET

The histories in nearly all the cases gave clear evidence, or at least presumptive evidence, of important dietary deficiencies dependent on the economic status and the mode of life. In one case a new set of false teeth was the limiting factor, and the diet in another case had been much restricted by a physician who was prescribing for gastric pain.

ALCOHOL

There is little indication that alcoholism was a factor. Thus scurvy seems to be contrasted with pellagra, in which alcoholism is known to be an important factor in the causation of many cases.[3] Investigation of a larger number of cases of scurvy with this question in mind might lead to a different conclusion.

The outstanding symptoms for which most of the patients sought relief were swelling of some part of the legs with ecchymoses, pain, tenderness and resulting disability. Weakness, dyspnea on exertion, edema of the ankles, anorexia and other minor digestive disorders were common symptoms, generally antedating the disabling lesions. The dyspnea and edema seem in some cases to have been symptomatic of a severe anemia with marked reduction of the red blood cells. In several other cases, however, they depended evidently on chronic myocardial insufficiency which had developed on an arteriosclerotic or cardiorenal background. Nosebleed, hemoptysis or hematuria was the presenting early symptom in several cases. Systolic blood pressures ruled low, the highest being 144, and the lowest, 80.

Physical Signs.—More or less extensive ecchymoses with marked local sensitiveness and pain were present in all cases. The ecchymoses were generally multiple, and some part of the legs was always involved. Purpuric spots on the skin were present in most of the cases but not in all.

In four cases all the teeth were false and the gums were not swollen. In a fifth case only a few teeth remained and the gums were "reddened." The remaining eleven cases showed sponginess of the gums with a tendency to bleed easily.

2. Meulengracht (Acta med. Scandinav. **67**: 43 [Oct. 8] 1927; abstr. J. A. M. A. **89**: 2233 [Dec. 24] 1927), in an article on scurvy in men living alone, stated that the cause of the scurvy in these cases was the diet, but that the reason for the improper diet was a distaste of the men for restaurant food and the consequent habit of eating in their rooms and partaking habitually of bread and butter and farina with coffee. Meat was eaten seldom, fruits and vegetables never.

3. Shattuck, G. C.: Factors Apparently Influencing the Development of Pellagra in Massachusetts, Boston M. & S. J. **188**: 889 (June 7) 1923. Klauder, J. V., and Winkelman, N. W.: Pellagra Among Chronic Alcoholic Addicts, J. A. M. A. **90**: 364 (Feb. 4) 1928.

Roughness and dryness of the skin was noted repeatedly. Several patients had slightly irregular or subfebrile temperatures.

Blood Counts.—The number of red cells in the blood was very variable. In four cases no red count was recorded. Among the thirteen remaining patients five had counts below 3 million, the lowest being 2,400,000; four were between 3 and 4 million, and four were from 4 to 4¼ million, the highest count.

The hemoglobin estimates ranged from 35 to 82 per cent. The indexes were either above or below one. The anemia was several times described as of the "secondary type." In one case (case 2), however, the preliminary diagnosis was "? pernicious anemia." The red count in this case was 2,400,000.

Counts of the blood platelets were generally normal. Reductions, when present, were regarded as proportional.

The bleeding time as recorded in eight cases and the coagulation time as recorded in twelve cases were within normal limits. Retraction of the clot was noted only twice. It was normal.

The counts of white cells ranged from 3,000 to 12,900.

Urinalyses.—The urine in this series of cases was normal in the great majority of cases. In only three was a small quantity of albumin noted.

There was only one death. This patient had generalized arteriosclerosis and failing cardiac compensation. He died on the day of admission to the hospital. Autopsy was not performed.

SUMMARY AND CONCLUSIONS

The cardinal diagnostic points in the seventeen adult cases of scurvy from the Boston City Hospital records were:

1. Extensive painful ecchymoses involving the legs.
2. Swelling of the gums in patients having teeth.
3. Absence of the blood changes characteristic of purpura hemorrhagica (namely, marked decrease of blood platelets, prolonged bleeding time, and failure of the blood clot to retract).
4. A history pointing to dietary deficiency.

It is necessary to exclude hemophilia; the acute infectious diseases, including arthritis, of which purpuric spots may be symptomatic; the toxic purpuras, including those due to drugs, to benzene poisoning or to liver disease, and, probably, certain hysterical states and mechanical vascular defects.

Other forms of "cachetic purpura" have been described as being related to cancer, tuberculosis, Hodgkin's disease, nephritis and old age. In such cases the possibility of a scorbutic basis should always be borne in mind, and the therapeutic test might well be applied before excluding scurvy.

It is clear that well marked scurvy in the adult may easily pass unrecognized and that failure to make the diagnosis is generally due to failure to consider the possibility of scurvy.

If well marked cases may thus escape diagnosis there must be a great many ill defined cases of "purpura," albuminuria, hematuria, nosebleed, indigestion, weakness, anemia, "rheumatism," visual disorders or bad teeth which could be much benefited by antiscorbutic treatment.

In our highly developed modern civilization the use of preserved or "ready-to-serve" articles of diet and dietary fads is playing an ever increasing rôle. May we not expect, therefore, to see scurvy increasing among the ill nourished poor, and even appearing occasionally among those in easy circumstances?

REPORT OF ILLUSTRATIVE CASES FROM THE BOSTON CITY HOSPITAL

CASE 1.—*History.*—An infant, aged 1 year, admitted to the South Department, Oct. 17, 1927, born in Boston and always bottle-fed, was receiving milk, cod liver oil and orange juice at the age of 9 months. The latter was omitted after several weeks on account of vomiting. The baby appeared otherwise well at that time.

At the time the child was admitted the mother said that on October 4, two weeks before, the patient had vomited and had had a punctiform rash on the trunk and flexor surfaces of the arms. The gums were swollen and the throat red. A physician made the diagnosis of scarlet fever. Swelling of the legs and of the joints was observed a few days later, and the physician thought of nephritis. The rash had disappeared and recurred off and on. It had not affected the face or legs. The patient came to the hospital with the diagnosis of scarlet fever and cellulitis of the leg.

Physical Examination.—The child looked anemic. There was punctate redness over the chest and back which was attributed to friction. There was a small ulcer due to decubitus, and another was developing.

The anterior third of the tongue was red and the papillae were enlarged. The soft palate was slightly injected and the faucial ring reddened. There were two lower teeth. The two upper teeth were covered by swollen mucous membrane, which formed a protruding mass measuring about 1 by 0.5 by 0.5 cm. This mass was purplish red and soft, and bled easily.

The ribs were prominent. The costovertebral junctions were enlarged and elevated about 1 cm.

Both legs and arms showed enlargement of the epiphyses. There was swelling about the left shoulder, right hip and right leg, and marked swelling about the left hip and the left leg, including the knee, which showed a slight bluish discoloration. The swollen areas were not hard but were very sensitive, and any attempt to move the legs caused pain.

The preliminary diagnosis was scurvy and possible late scarlet fever.

Treatment and Course.—The juice of oranges and tomatoes was prescribed.

Eight days after admission, October 26, the swelling of the gums had disappeared and the two upper teeth were visible. The epiphyses were still swollen but no longer tender. Marked deformity of the upper left leg persisted and this leg was sensitive to pressure on movement. The swelling of the other leg had disappeared. The patient looked less anemic and the skin was less dry.

During the night of November 2 the condition of the patient became worse and death followed. There had been a persistent low fever, the cause of which was not clear.

The clinical diagnosis was scurvy, bronchopneumonia and rickets.

The autopsy, performed by Dr. F. B. Mallory, showed old rickets; bronchopneumonia; scurvy; subepicardial and subpleural petechiae and ecchymoses; submucosal hemorrhage of the stomach; subperiosteal hemorrhage of the tibia and femur; hyperplasia of the costochondral articulations; hyperplastic generalized lymphadenitis; ostitis and periostitis of the jaw, and dermatitis.

CASE 2.—*History.*—A white woman, aged 63, single, born in Sweden, engaged in housework by the day, admitted Feb. 7, 1923, to the First Medical Service, had always been well until early January, about a month before, when she became weak and had shortness of breath and palpitation on climbing stairs. The weakness had increased, and the patient had fainted three times. There had been ringing in the ears and numbness and tingling in the fingers and dryness of the mouth for a month. Later, black spots and swelling developed rapidly about the knee and walking became painful. The appetite was poor until after admission to the hospital, and there had been some loss of weight. The patient had been confined to bed and had continued to lose strength.

Physical Examination.—The patient was poorly nourished. The mucous membranes were pale. A few stumps of teeth

remained. The tongue exhibited a coarse tremor. On examination of the chest a few crepitant râles were heard in front over the left side and in the axilla. The heart sounds were regular and of good quality. A soft blowing systolic murmur was heard over the precordia. The blood pressure was 144 systolic and 88 diastolic.

An extensive ecchymotic discoloration extended along the under surface of the right thigh, across the popliteal space and onto the calf. A similar discoloration covered the lower anterior third of the right thigh and extended to the upper third of the right leg. The lower leg was shiny, edematous and indurated. The knee jerks were present.

February 12 there was a moderate, irregular, febrile temperature. The blood picture looked a little like that of pernicious anemia.

Treatment and Course.—March 5, the condition of the patient had improved gradually on a nutritious diet. It was now known that the patient had lived alone during the past year in a rooming house where she had prepared for herself a meager diet without fresh fruit of any kind. She was transferred to the Service for Tropical Diseases with the diagnosis of scurvy and was put on an antiscorbutic diet.

March 14, a roentgenogram revealed periosteal elevation along the inner side of the right tibia.

March 24, angioneurotic edema of the eyelids, mouth and throat was present, with inspiratory and expiratory stridor. Soreness of the mouth and throat began the preceding day. Injection of 15 minims (1 cc.) of epinephrine twice repeated had no effect. The patient was treated on March 25 by repeated injections of her own serum. She had already improved, however, and the condition cleared up on the 26th.

May 9, the patient was discharged, relieved. She had been able to walk about the ward a month before, but slight edema of the right lower leg had persisted until recently. She was now active and in good condition.

Laboratory Examination.—Tests of the urine were repeatedly negative.

February 7, the white count was 3,500, and the hemoglobin 40 per cent.

February 9, the blood service report was: white count, 3,000; hemoglobin, 55 per cent; red count, 2,400,000; platelets, 250,000. A smear showed slight achromia, moderate anisocytosis, abundant platelets and no blasts. The bleeding time was normal. There was no disturbance of coagulation time or of the other elements of coagulation. This was an atypical anemia. The smear in places was much like that of pernicious anemia.

March 8, the white count was 6,000.

March 10, the hemoglobin was 65 per cent, and the red count, 3,600,000.

March 22, the hemoglobin was 70 per cent, and the red count, 4,200,000.

May 9, the hemoglobin was 80 per cent, and the red count, 4,600,000.

Gastric analysis was done March 4. Lavage was carried out four hours after the last meal and just after the patient had taken a very little food. A test meal was abstracted one hour later; 25 cc. was obtained, containing much food showing little evidence of digestion. There was no free hydrochloric acid and the total acidity was neutralized by 26 cc.

CASE 3.—*History.*—A white woman, aged 79, a widow, born in Boston, admitted April 15, 1923, to the First Medical Service, had formerly been a seamstress but had not done this work for five years on account of bad eyesight. The general health had always been good, but for many years she had had indigestion after hearty eating. The patient had been fairly well until two weeks before, when the lower right leg became rapidly swollen, painful and reddish. The symptoms increased until two days before admission.

Physical Examination.—The patient was poorly nourished. The skin everywhere was loose, dry, scaly and coarse. It appeared dehydrated and showed loss of weight. The teeth were all false. The right leg from the knee to the ankle was uniformly swollen, tense and tender, and uniformly reddish. It pitted on pressure. Over the upper left tibia was a circumscribed area 2 inches (5 cm.) in diameter which was similar in appearance to the more extensive lesion on the other leg. There were several other lesions of like character on the left leg. The blood pressure was 110 systolic and 80 diastolic.

April 17, the white count was 3,400, and the red count, 4,100,000.

Treatment and Course.—The patient received a diet suitable for scurvy and made a rapid recovery. She was discharged well, April 30.

CASE 4.—*History.*—A white man, aged 55, a widower, born in Ireland, employed as a plumber, when admitted, April 30, 1923, to the Second Medical Service, stated that about sixteen days before he had noticed extensive purplish discoloration on all the extremities and on the trunk. The legs were covered with purple spots and the ankles were swollen. The discoloration increased and pain developed in the legs. For a week before admission the patient remained in bed because his ankles were so painful that he could not walk. The appetite was good but he was losing weight. Several teeth which had become loose were extracted by the patient before admission. He had been living alone and getting most of his own meals for five years. He had subsisted largely on canned goods.

Physical Examination.—The skin, generally, had a yellowish tinge and the patient looked anemic. The sclerae were faintly yellow. The gums were swollen, tender, cyanotic and bleeding. There were prominent swellings of the gums on the upper right side. The teeth were bad. The heart was regular, but the sounds were of poor quality. The blood pressure was 80 systolic and 40 diastolic. The lungs were normal. The abdomen exhibited several small hemorrhagic spots. The legs from the hips to the ankles were covered with small hemorrhagic spots. The dorsa of the feet were swollen, red, indurated and tender. Over the tibiae were small tender elevations. The popliteal spaces and the backs of the thighs showed extensive purplish ecchymoses. There was similar discoloration in the axillae and on the inner aspects of the upper arms. The knee jerks were active and equal.

The white count was 4,800; the hemoglobin, 75 per cent, and the red count, 3,456,000. The blood service reported that the changes characteristic of purpura hemorrhagica were absent.

The urine was normal.

Treatment and Course.—A nutritious diet with much orange juice was instituted.

May 7, the patient was transferred to the service for tropical diseases.

May 14, the patient had improved gradually but steadily. The edema had disappeared, the swelling had subsided, the ecchymoses and the purpuric spots were fading and the tenderness of the ankles, which was extreme, had diminished.

The patient subsequently developed a purulent dacryocystitis and was transferred to the surgical service for operation.

CASE 5.—*History.*—A white man, aged 50, single, born in Ireland, a grave-digger, admitted, April 10, 1926, to the Fourth Medical Service, had lived for years alone in a cellar. There were characteristic signs of scurvy and of a severe anemia with 2,500,000 red cells. The bleeding time and clotting time were normal. The case was diagnosed and treated as scurvy and the patient made an uneventful recovery.

Previous Admission.—The patient had previously been admitted, April 18, 1921.

About four weeks before the right leg had become swollen, red and painful. The first lesion appeared on the front of the right tibia and increased in size for a week. Two weeks before a similar lesion appeared on the left leg. The patient had kept off his feet for a month. The appetite was good. There was no dyspnea. There had been cramps in the legs for two years.

Physical Examination.—The patient was fairly well nourished. The teeth were poor and showed marked pyorrhea. The right leg was bluish red from the knee to the ankle. The veins above the knee were somewhat distended. The pulse was not felt in the dorsalis pedis artery. About the middle of the anterior portion of the lower left leg was another red swelling. Many petechiae were seen on both legs.

Progress.—The patient improved rapidly and was discharged relieved with a diagnosis of arteriosclerosis and endarteritis obliterans. A diagnosis of scurvy would probably have been made at that time had the possibility of scurvy been considered.

520 Commonwealth Avenue.

DERMATOPHYTOSIS OF EXTREMITIES ASSOCIATED WITH PERIPHERAL OCCLUSIVE ENDARTERITIS

PRELIMINARY REPORT OF CLINICAL AND THERAPEUTIC OBSERVATIONS *

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Dermatophytosis [1] or so-called ringworm of the feet and hands is occasionally an extremely difficult condition in which to attain a clinical cure.[2] Mitchell [3] has recently emphasized the need for research in regard to the treatment of such infections. While this paper does not deal with such research in the fullest sense, several clinical observations are here reported which have proved to have a prominent influence in the treatment of certain patients with stubborn superficial mycotic infections of the feet and adjacent areas. In the course of a clinical and mycologic study of a large series of such infections, a number of adult patients (eighteen) who remained unusually obstinate to ordinary therapeutic measures were found to have an occlusive peripheral endarteritis. Recognition of this factor and treatment directed toward the vascular impairment, combined with local therapeutic measures, have produced clinical cures sufficient to enable patients to return to their usual vocations in much less time than when only local therapy had been employed. The paucity of references in the literature to definite contributing factors, either general or local, in ringworm eczema of the extremities further prompts the reporting of the clinical observations, laboratory reactions and therapeutic details of the three selected illustrative cases which follow. They will be recorded in more or less detail to enable other workers to compare their cases with mine in respect to the particular expression which the circulatory disturbances took.

REPORT OF CASES

CASE 1.—A man, aged 64, had an acute ringworm infection of the left foot manifested by marked swelling of the fourth and fifth toes with an eczematoid involvement of the left leg extending almost to the groin. He had received several roentgen-ray treatments at other hands, but stated that the condition became worse and spread after each treatment. It was difficult to believe this statement but subsequent observations on other patients with similar conditions have substantiated it. The swelling and distress had practically prevented his attending to business. He had had cracking between the toes for years but there had never been any more than an occasional local exacerbation. His general health had been good except for "mild diabetes," and he had not missed a day at his office for more than three years because of illness until the present skin attack with its increasing distress. Potassium hydroxide preparations from the borders of the eroded areas on the involved toes showed many long hyphae; *Trichophyton interdigitale* grew in cultures. The blood pressure was 122 systolic and 80 diastolic. Although the blood pressure was not elevated, the radial arteries were distinctly sclerosed on palpation. Two urine examinations and the blood Wassermann reaction were negative. The blood sugar was slightly elevated; reduction to normal by dietary measures did not influence the skin condition to any perceptible degree.

Because of the marked swelling and acute symptoms, the patient was instructed to use wet dressings of potassium permanganate (1:8,000) on the left foot and leg and was put to bed. In view of a previous experience with three other patients with hypertension and sclerotic blood vessels who showed an unexpected generalized eruption (so-called dermatophytid) following one fractional roentgen-ray treatment of local mycotic areas on the hands and feet, and because of the patient's statement with regard to the exaggeration of the condition following each previous irradiation, roentgen-ray treatment was not given. In two weeks' time all areas had progressed very well except the left foot, where the fourth and fifth toes remained tender and greatly swollen; these areas actually grew worse under wet dressings, both potassium permanganate and solution of aluminum subacetate being used in various strengths. Crude coal tar ointments in 6 per cent strength were applied to the toes without benefit; in fact, there was local aggravation. A bland antiseptic dusting powder gave the only relief and improvement that the patient could obtain. For the next three months the patient was up and down, going to the office occasionally. In the belief that there was some contributing factor, he was asked to consult his physician for a general examination, especially in regard to the circulatory system, for a superficial examination and had revealed that the dorsalis pedis and posterior tibial arteries were not palpable in the left foot and were only moderately so in the right.

The following data were kindly furnished by Dr. A. C. Schaefer: The pulse was 72 and the blood pressure 124 systolic and 80 diastolic. Percussion of the heart area revealed slight enlargement. Physical examination of the chest was negative. The left foot had a scaling eruption, with several swollen erythematous appearing toes, and was somewhat cyanotic. Although the foot was warm, pulsations were not palpable. The pulse was fully perceptible in the right foot. Fluoroscopic examination of the heart showed the aorta to be 3.5 cm. in diameter; the chest was normal. Data obtained with the Pachon oscillometer (armlet applied just above each ankle) showed 0.5 at a pressure of 120 mm. of mercury on the left ankle and 2.0 at the same pressure on the right ankle. The diagnosis was arteriosclerosis of the pedal vessels with little circulation. Roentgenographic examination of the feet showed marked arteriosclerosis.

These observations suggested that the impaired circulation might be a factor favoring fungus activity. With the patient kept on the same external medicaments, it was decided to give sodium citrate intravenously. Having had experience with this drug in the successful healing of ulcerations of the extremities in a small series of patients suffering from thrombo-angiitis obliterans, I reasoned that the peripheral circulation might be increased long enough to enhance the local resistance sufficiently, with the aid of local mild fungicidal applications, to overcome the active fungus infection. Injections were given on alternate days, being increased from 5 cc. to 12 cc. intravenously; the preparation used was in 20 per cent strength, as suggested by Steel [4] in treating thrombo-angiitis obliterans. In three weeks' time the patient was able to return to his office, and his feet have remained normal clinically for ten months.

CASE 2.—A man, aged 42, had a painful ulceration of the medial surface of the right ankle for three weeks, following and coincident with a swollen right foot. The cutaneous condition itself had incapacitated him for four months because of severe burning, itching and pain when attempting to walk. The ulcer had a clean glazed floor with some serous secretion, a nonindurated base, and a smooth border; it was approximately 4.5 cm. long and 3 cm. wide, the depth varying from 3 mm. near the border to 5 mm. in the center. The whole foot was swollen and covered with many vesicles, bullae and scaling erythematous patches; all the toes were markedly swollen. Just distal to the ulcer was one large erythematous patch with an undermined scaling border. Numerous roentgen-ray treatments had apparently aggravated the condition; the area and border of the ulcer did not show any signs of roentgen-ray injury. Various ointments had been used and wet dressings

* Clinical and Experimental Studies in Mycotic Dermatitis, IV.

1. The scope and synoyms of the term dermatophytosis are discussed by Weidman, F. D.: Dermatophytosis—The Newer Ringworm, J. A. M. A. **90**: 499-502 (Feb. 18) 1928.

2. Symptomatic, as opposed to a cure requiring the permanent elimination of the micro-organisms.

3. Mitchell, J. H.: Need for Research in the Treatment of the Epidermophytoses, J. A. M. A. **89**: 421-423 (Aug. 6) 1927.

4. Steel, W. A.: Personal communication to the author, November, 1925.

of potassium permanganate, according to the patient. The patient volunteered the information that the wet dressing had decidedly aggravated the skin lesions. The effect of aluminum subacetate wet dressings in treating lesions of the extremities with resultant gangrene has recently been commented on by Dr. William Allen Pusey.[5] His opinion is that the underlying factor of endarteritis producing an impaired circulation is the important cause of gangrene and not the drug used in the wet dressings. To what extent the wet dressings were a factor in this ulceration is problematic.

General examination was essentially negative except for hypertension and arteriosclerosis, which had especially involved the peripheral vessels of the legs. The blood pressure was 172 systolic and 94 diastolic. Because of the overlying ulceration partially covering the area traversed by the dorsalis pedis artery, it was possible to palpate the vessels in only one small region. The pulse was not detectable in this area or in that of the posterior tibial artery. The vessels of the left foot were very feebly palpable. The radial vessels felt somewhat sclerotic; the pulse was regular and bounding. The attending physician had found a normal blood sugar concentration and a negative blood Wassermann reaction. The clinical diagnosis of mycotic dermatitis was made and, at the time of observation, the major portion of the foot presented the acute vesicular-bullous-pustular stage. The ulceration was considered due to invasion of fungi in a field of enfeebled vascular supply—an area due at least to marked impairment of one small arterial branch, maceration by wet dressing possibly being a factor in its enlargement.

Roofs of bullae adjacent to the ulcer and scales taken from the border of the nearby erythematous-squamous patch showed many long hyphae on extemporaneous potassium hydroxide preparations. Direct examination of scales from the eroded intertriginous area of the toes of the same foot was positive for hyphae. Numerous plantings were made on Sabouraud's dextrose isolation mediums. Several of the cultures from the roofs of bullae near the ulcer became positive in ten days' time, the cultures conforming to the description of *Trichophyton interdigitale*.

Intravenous injections of sodium citrate in 20 per cent strength were given on alternate days, the dosage starting at 5 cc. and being gradually increased to 20 cc. In six weeks' time the ulcer had completely granulated. Injections were then given twice weekly, and in four more weeks it had completely epitheliated. The peripheral vessels of the affected foot were now feebly palpable. The hypertension was lower but this was probably due to the rest in bed that the patient had had during the treatment. He returned to work, and there has been only an occasional mild intertriginous exacerbation of the ringworm on the toes and both hands. A weak ammoniated mercury ointment was used locally.

CASE 3.—B. L., a man, aged 25, had ulcerations of three toes of three months' duration. He had had "ringworm eczema" of the feet for almost a year but it had become decidedly aggravated preceding and concomitant with the ulceration. The three ulcers were on the dorsa and tips of the second and third toes of the left foot and the second toe of the right; the latter was particularly deep and extensive, involving almost a third of the dorsomedial surfaces. Surrounding all ulcers were oozing erythematous areas with a few deep vesicles interspersed; portions of the borders were undermined. No pulsation could be detected in the dorsalis pedis arteries of both feet; the posterior tibial of the left ankle was feebly palpable; of the right, moderately so. The blood pressure was 132 systolic and 88 diastolic. The clinical diagnosis was erythematovesicular ringworm and ulcerations due to fungus activity in areas of impaired arterial supply, the latter a localized manifestation of arteriosclerosis that is termed presenile by some writers.

Further close questioning revealed that the patient suffered intermittent claudication for a year; he had considered it to be due to working on a cement floor. After resting a few minutes, he would be able to resume his work. He was a moderate cigaret smoker, not using tobacco in any other form. There were no outstanding clinical criteria to place his ailment in the classification of thrombo-angiitis obliterans.

Direct potassium hydroxide preparations of the vesicles near two of the ulcers were positive for hyphae. Numerous plantings on Sabouraud's isolation mediums failed to grow. The blood Wassermann reaction was negative; urine examinations were repeatedly negative.

Sodium citrate was started intravenously on alternate days; the dosage was never more than 10 cc. because of intolerance of larger doses. He was instructed to rest the feet as much as possible and to keep them elevated. In ten days' time all ulcers were beginning to granulate; all were healed in five weeks' time and he was able to resume his former work. Three months later the ulcer on the second toe of the right foot reappeared, although it was much smaller than previously. It healed in three weeks' time with sodium citrate injections twice weekly while the patient continued at his work. The dorsalis pedis of the right foot could not be palpated, although the posterior tibial artery was easily palpable. The latter vessel was also easily palpated in the left foot and the dorsalis pedis pulsation was definite but very feeble. Local preparations were used as in the preceding two cases.

COMMENT

Questions which immediately arise in connection with my series of cases are the exact status of the arterial supply and the clinical evaluation of the circulatory factor in the promotion of fungus activity.

Taking up the different vascular diseases first, the peripheral vascular disturbances have been receiving close attention during the past few years at the hands of several clinicians. Buerger[6] has clearly differentiated the arteriosclerotic endarteritis obliterans from the entity thrombo-angiitis obliterans; the latter is often designated by his name. Brown[7] has contributed an excellent working classification, making the gross distinction of functional and organic disturbances; the chief distinction between these two types is the palpability of the pulsation.

Buerger[8] states that the status of the arterial pulsation is an extremely important diagnostic feature in the recognition of organic peripheral impairment. He says:

> The detection of the presence of pulsation in the palpable arteries of the extremities, namely, the radial, ulnar, brachial, dorsalis pedis, posterior tibial, popliteal and femoral, is one of the most valuable physical signs for the recognition and differentiation of a symptom complex due to vascular disease or vasomotor excitement. . . . In the author's experience, tests of some 200 cases—that were regarded as normal, and in which the possibility of any excessive compromise of arterial integrity could be excluded—failed to evidence more than one instance of absence of the dorsalis pedis pulsation (0.5 per cent). . . . Fortuitous interference with the demonstrability of the arterial beat through changes in the skin, as edema, eczema, elephantiasis, adiposity and other exceptional causes, must be given proper consideration.

As the pulse was markedly diminished or absent in all of my patients, the circulatory impairment would fall in the organic group. None presented any of the clinical features of thrombo-angiitis obliterans, although several were far below the accepted dividing age of 45. The latter group could be classed under the presenile arteriosclerotic category; several observers would classify thrombo-angiitis obliterans also under this head, but Buerger has shown that the typical cases at least present the pathologic changes of an infectious process. While there was clinically impairment of the vascular supply in the larger vessels, the ulcerations of varying sizes must be attributed to partial or total thrombosis

5. Supposed Dangers in Wet Dressings of Aluminum Acetate, editorial, Arch. Dermat. & Syph. **16**: 754 (Dec.) 1927.

6. Buerger, Leo: The Circulatory Disturbances of the Extremities, Philadelphia, W. B. Saunders Company, 1924, p. 213.

7. Brown, G. E.: Treatment of the Peripheral Vascular Disturbances of the Extremities, J. A. M. A. **87**: 379-383 (Aug. 7) 1926.

8. Buerger: The Circulatory Disturbances of the Extremities, p. 132.

of the smaller arterial branches. How much the extension of the mycotic process invaded to produce a possible infectious thrombosis is problematic because a biopsy of an ulcer was out of the question when one was endeavoring to heal such a recalcitrant condition. The exact clinical evaluation of the mycotic and impaired arterial factors can be definitely determined only by pathologic study of the involved areas.

I fully appreciate that, in view of the fact that dermatophytosis is such a common condition, it may be present naturally in persons who have arteriosclerosis as well as in others. However, it is the apparent symbiotic combination of the impaired circulation and mycotic activity in such persons that gives rise to the clinical picture described. The uniformly good therapeutic results point to more than an incidental occurrence and seem to justify a preliminary report. Exact statistics are not available covering the incidence of the combined occurrence of the two processes where no apparent symbiosis is present.

Sodium citrate has been used extensively by Steel[9] in the treatment of thrombo-angiitis obliterans, and he believes that it exerts a specific action as well as reducing the viscosity of the blood. Three patients who presented superficial mycotic infections of the feet but no apparent detectable peripheral arterial wall sclerosis were given the drug intravenously to determine whether it had any specific effect on the eruption. No apparent improvement was noted in this series of controls, so that this would suggest that the drug produced beneficial effects by inducing a physiologic improvement of the circulation so as indirectly to increase the resistance of the local areas.

Usually the drug is well tolerated if given slowly; 20 cc. was the maximum dose administered. Several patients could not take more than 10 cc. because of the production of tachycardia, faintness, and a feeling of impending general collapse. One patient with marked arteriosclerosis had a feeling of substernal tightness followed by a series of sneezes if more than 8 cc. was given. The dosage was always kept below the point of any systemic reaction, especially in the elderly patients because of the severe grade of arteriosclerosis. Practically every patient had a numb feeling of the lower lip soon after the administration of the drug was commenced. Further pharmacologic study of the drug is necessary to establish its exact action in patients of this type, and it is possible that other drugs would produce good results; e. g., sodium chloride as used by Silbert[10] in treating thrombo-angiitis obliterans.

Local therapeutic measures were very important, but the utmost care had to be exercised to avoid too strong preparations. Weak antimycotic preparations as mentioned were used, incorporated in a bland base or occasionally in dusting powders if there were no ulcers. Wet dressings, especially if used longer than one day, usually aggravated the condition; they were used only to relieve the acute symptoms in several patients and then were promptly discontinued.

The fractional doses of roentgen ray had not produced any permanent or even temporary results in most cases; irradiation actually aggravated the local condition in a few cases in which it had been administered. It is possible that roentgen-ray treatment could produce widespread dissemination of a localized eruption, as already stated.

SUMMARY

In a series of eighteen patients having resistant dermatophytosis of the extremities, examination of the peripheral blood vessels revealed an obliterating occlusive endarteritis, not thrombo-angiitis obliterans. This circulatory impairment seemed to be a factor in favoring the development of the mycotic dermatitis, even to the production of ulceration.

Detailed clinical and laboratory observations were made in three such patients, in whom various therapeutic measures were employed. Sodium citrate injections seem to have played an important rôle in the success achieved in these cases.

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9. Steel, W. A.: Sodium Citrate in the Treatment of Thrombo-Angiitis Obliterans, J. A. M. A. **76**: 429-431 (Feb. 12) 1921; Clinical Aspects of Thrombo-Angiitis Obliterans, Internat. Clin. **3**: 46-51 (Sept.) 1927.

10. Silbert, Samuel: Treatment of Thrombo-Angiitis Obliterans by Intravenous Injections of Hypertonic Salt Solution: Preliminary Report, J. A. M. A. **86**: 1759-1761 (June 5) 1926.

THE ARREST OF DENTAL CARIES IN CHILDHOOD*

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Dental caries may be properly considered as a disease of childhood, susceptibility at this age period being almost universal. In surveys of school children it is unusual to find a mouth free from caries. The average child will have seven or more affected teeth in various stages of destruction. The rate of progress of the carious process and the number of teeth involved varies with the individual. As the child approaches maturity, retardation of destruction becomes evident. In some instances active caries may become arrested spontaneously during childhood. The factors involved in the inactivation have not been understood, nor have many instances been recorded.

The etiology of dental caries is a subject of controversy. It is generally conceded that a break in the continuity of the enamel is a primary requisite. The exposed dentin thus becomes susceptible to attack by external agencies. Any factor leading to enamel defects will thus predispose a tooth to caries.

It is evident, however, that other factors also are involved, for it is not unusual to find in the middle aged all teeth abraded almost to the gingival margin, with the dentin widely exposed, yet no evidence of active caries. Various strains of bacteria have been described as causative agents. It is obvious that the carious process involves a bacterial factor, but it is questionable whether this is due to any specific organism or is a secondary invasion of dentin which has previously been injured in such a way that it cannot withstand the many organisms found in the normal mouth. Strict oral hygiene is not necessarily a preventive of caries, and many adult mouths which do not receive care and have exposed dentin show little carious activity. That some other factor is involved than those mentioned is made presumptive by the observations which form the basis of this study.

The present report was prompted by some unusual observations made in the course of repeated routine examination of patients in the dental division of this clinic. The examinations disclosed numerous instances of definite arrest of caries in children. Teeth contain-

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ing large cavities, which ordinarily would have an area of softened dentin surrounding the zone of destruction, were found instead to be very dense. In these mouths in which there was evidence of rapid and extensive involvement of many teeth, further invasion was shown by subsequent examinations to be checked, and open cavities did not show any signs of progress months after they had first been described. Moreover, the occurrence of salivary calculous deposits on these teeth was almost universal, and it recurred rapidly after its thorough removal. Salivary calculus, though not uncommon in the adult, is very unusual in the child. Otherwise, these patients did not show anything noteworthy from a dental standpoint. Shedding and eruption were about normal in most cases. The degree of oral hygiene varied as greatly as in any unselected group of similar size. Some teeth showing unquestionable arrest of caries were found in the most poorly kept mouths.

When these dental observations were correlated with the medical histories of the patients, it was found that without exception the children with arrested caries were all diabetic patients who had been under careful management for six months or more.

The diabetes itself does not offer an explanation of the arrested caries. A review of the earlier examinations of many of these patients at the time that they first came to the hospital showed the caries to have been definitely active. Furthermore, it is known that in diabetes not under control and in ketosis there is a negative mineral balance which of necessity must lead to decalcification of teeth.

Since arrest of caries was not noted in children with any other disease or condition and since it is not dependent on diabetes, it appears that it must depend on some factor in diabetic management. A further study of other diabetic patients revealed a parallelism between the establishment of diabetic control and the quiescence of the caries.

The principle of diabetic management in this clinic represents an attempt to approximate normal metabolism. Insulin is prescribed in amounts sufficient to keep the blood sugar as nearly within normal limits as possible. The diet [1] is designed to meet the requirements of a normal child for growth, activity and health. It differs from the usual concept of an ideal diet for a normal child in that fat, rather than carbohydrate, is used as the chief source of energy, the fatty acid : dextrose ratio being 1.5 : 1. All these children were on the same ratio of protein : carbohydrate : fat, namely, 7 : 9 : 21. The total amounts prescribed varied according to each child's degree of development. In general, the same foodstuffs were used for all.[2] To a large extent these consisted of milk, cream, butter, eggs, meat, cod liver oil, bulky vegetables and fruits. The daily menu was designed to include approximately a quart of milk and cream daily. The fat was furnished principally as cream, butter and egg-yolk. Each child received calories sufficient for full activity; the energy value was higher than is frequently employed in diabetic diets. Adequacy of insulin dosage was verified by frequent blood sugar estimations. These values closely approximated normal concentrations. Glycosuria was infrequent.

When diabetes is well under control we are inclined to look on diabetic children as essentially normal and as not differing from other children in any definite manner. It seems reasonable to us to suppose that the insulin given has done nothing more than to assist in the maintenance of normal sugar metabolism. If these premises are granted, the only factor in the arrest of caries remaining to be considered is the character of the diet. The arrest of caries in these children was coincident with strict dietary regulation, and it seems probable that the diet was the essential factor leading to its arrest.

The menus which these patients received furnished the essentials of a complete diet, so far as our present knowledge can determine. The use of an abundance of dairy products, fruits and vegetables, supplemented with cod liver oil, insured a considerable supply of mineral salts and vitamins. It is probably of significance that the ash of the diet was predominantly basic. This, together with an adequate and balanced ration, is the essential difference between the diet of these children with arrested caries and that of the child whose caries is progressive. The average child is generally allowed to use his appetite as an index of his food needs. His menu is determined by the choice of foods offered him. Menus employed in the home are often far from complete in accessory food substances and minerals. It may be safely said that these diabetic children ate regularly a diet more in accordance with the needs of a normal child than the average child receives.

The high incidence of caries during childhood, its activation in adults by pregnancy and lactation, and its frequent association with deficiency diseases give evidence of its dependence on metabolic disturbances. Such disturbances may depend in part or wholly on the character of the food intake. Howe,[3] Grieves [4] and Marshall [5] have demonstrated the development of caries in laboratory animals receiving diets inadequate either in vitamins or in minerals. These dietary deficiencies result in disturbances of the mineral balance. Such disturbances can manifest their effects within a surprisingly short time. Demonstrable changes in tooth structure have been noted within a few hours after the ingestion of various substances which affect the mineral metabolism of the body as a whole.[6] It is well known that calcium is readily mobilized from the bones and teeth when needed for the regulation of mineral metabolism. Chemical analysis of carious teeth shows reduction of the calcium and the phosphorus. Associated with the development of tooth decay, the adjacent dentin becomes softened. These changes, by lowering the physiologic integrity of the dentin, permit bacterial invasion to occur.

It would seem reasonable to suppose that, with a correction of conditions leading to metabolic disturbances, the teeth should develop resistance to caries. The spontaneous arrest which is not uncommon in the adult may be credited in part to the relief from metabolic strain associated with growth. With an approximation of ideal conditions in childhood, arrest of caries should result.

To correlate these observations with the problem of caries in the child who does not exhibit a manifest form of recognized metabolic deficiency, we must consider

1. Boyd, J. D.: Use of Standard Diet Formulas in Control of Juvenile Diabetes Mellitus, J. A. M. A. **87**: 1020 (Sept. 25) 1926.
2. Boyd, J. D., and Nelson, M. V.: Diabetic Diets for Children, J. Am. Diet. A. **2**: 45 (June) 1926.
3. Howe, P. R.: Decalcification of Teeth and Bones and Regeneration of Bone Through Diet, J. A. M. A. **79**: 1565 (Nov. 4) 1922.
4. Grieves, C. J.: Effect of Defective Diets on Teeth, J. A. M. A. **79**: 1567 (Nov. 4) 1922.
5. Marshall, J. A.: Control of Dental Caries by Means of Diet, J. Am. Dent. A. **15**: 295 (Feb.) 1928.
6. Howe, P. R.: Investigations of Dental Caries, J. Am. Dent. A. **14**: 1864 (Oct.) 1927.

the borderline states of nutritional disease conditions and study them in relation to the type of diet which is commonly employed by the average American family. Analysis of these diets from the standpoint of vitamin and mineral adequacy shows them to fall below the optimum values, sometimes to a marked degree. While their defective character might not reveal itself in the case of the adult who is free from undue metabolic strain, the same would not be true of the child, whose requirements of growth and development keep him continuously near the danger zone of metabolic imbalance.

In the case of these diabetic children, with their condition kept quite well under control by dietary and insulin management, we believe that because of the intake of a supposedly adequate supply of vitamins and minerals the caries has become arrested. The employment of similarly adequate diets by the average healthy child should be equally effective in the prevention and arrest of tooth decay.

SUMMARY

The intake of a diet rich in mineral salts and vitamins was found to result in arrest of dental caries in a group of twenty-eight well controlled diabetic children, 82 per cent of whom had shown definitely progressive caries prior to the establishment of the dietary control.

This indicates the dependence of dental caries on recent dietary inadequacies, such as might be associated with the usual food intake of the average child.

Clinical Notes, Suggestions and New Instruments

IMPACTION OF FOREIGN BODIES IN THE ESOPHAGUS DURING VOMITING

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It is not generally recognized that foreign bodies may be lodged in the esophagus after having passed into the stomach. The possibility of this occurrence emphasizes the importance of following the course of all gastric foreign bodies until their removal or expulsion is accomplished. Repeated observations and examinations, physical, roentgenographic and endoscopic, are indicated.

In the following two cases foreign bodies were ingested into the stomach and were subsequently impacted in the esophagus during vomiting.

REPORT OF CASES

CASE 1.—A. G., aged 4, admitted, June 6, 1927, had had moderate obstruction to the swallowing of solids of twenty-four hours' duration.

The child had swallowed a coin, a five cent piece, four days prior to admission. Roentgen-ray examination revealed the coin in the stomach. The child was symptom free for three days until a vomiting spell occurred. Immediately after the vomiting spell, obstruction to the swallowing of solids appeared and has persisted. A second roentgenographic examination revealed the coin in the upper part of the esophagus.

Esophagoscopy without anesthesia located the coin in the upper part of the esophagus just below the upper constriction. It was removed.

CASE 2.—Sister S. G., admitted, Dec. 6, 1926, complained of having felt a foreign body beneath the lower segment of the sternum for the past fourteen hours.

The patient had eaten salmon eighteen hours prior to admission. Four hours later she had had a vomiting spell, immediately following which the sensation of a foreign body in the lower sternal region appeared. Roentgen-ray examination did not include the lower esophagus and failed to demonstrate a foreign body.

As the patient persisted in her complaint, an esophagoscopy was performed. A sewing needle was found lying obliquely in the esophagus just above the cardia and was removed.

Though this impaction in the esophagus was not supported by roentgenologic evidence, the history is sufficiently definite to be conclusive.

CONCLUSIONS

1. Foreign bodies that have passed into the stomach may be subsequently impacted in the esophagus.

2. The subjective sensation of a foreign body being present is sufficient indication for endoscopic investigation.

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ACNE FROM IODIZED SALT

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Iodides and bromides have long been known to cause acneform eruptions in persons susceptible to these salts. The appearance of acne in a patient past the age of 25 immediately evokes from the dermatologist an interrogation concerning the use of these drugs. The more meticulous physician will also question his patients regarding the ingestion of iron and cod liver oil; the excessive use of cold creams and other oily cosmetics; their occupations (tar, oils, paraffin, chlorine), and the presence of diseased teeth and tonsils. In this day of fads, he should also inquire as to the ingestion of medicine taken for the prevention or treatment of goiter, such as chocolate tablets containing organic iodine, compound solution of iodine, pepto-iodine, calcidin and the many other proprietary "sure cures" for goiter. Several errors in diagnosis will prompt me, in the future, also to question my acne patients concerning the prolonged use of the apparently harmless and much advertised iodized type of common table salt.

A total of seven cases of acne of the face, all in women past the "acne age," have been observed following the prolonged use of iodized salt. The duration of the period of ingestion of the salt in these cases ranged from six weeks to one year. Since doses as small as 3 grains (0.2 Gm.) of the iodides have been known to produce alarming systemic symptoms, it is not beyond the scope of speculation to presume that this so-called harmless iodized salt was the sole cause of the acneform eruption in these patients. In not a single instance was the salt prescribed by a physician. A newspaper or magazine advertisement by the manufacturer usually prompted its use. One patient turned to iodized salt because "they used it exclusively in her boarding house."

The first patient seen with an iodized-salt acne came under my observation about two years ago. She had suddenly developed a moderately severe pustular acne at the age of 30. In view of her age and the absence of comedones, she was questioned concerning the ingestion of drugs. There was no history of the ingestion of bromides or iodides, but the patient volunteered the information that she had used iodized salt exclusively for several months. This was not considered an etiologic factor at the time. The routine acne treatment and irradiation with the roentgen ray resulted in a cure in about six weeks. One year ago, this patient returned with a recurrence of the acneform eruption. Questioning elicited that she had eliminated iodized salt from her diet shortly after her initial visit for acne treatments two years before. Complete disappearance of the acne eruption followed in about six weeks. One year later, iodized salt was again added to the diet. After she had used this salt for a period of six weeks, the acneform eruption of the face reappeared, this time in a more pronounced form. Elimination of the iodized salt from the diet again resulted in a rapid and, to date, complete cure.

Two other women under observation for acne at that time, for whom hopes of a cure had almost been abandoned, were questioned concerning the ingestion of iodized salt. It was found that both these patients were using it exclusively in

their diet with the hope of preventing goiter. Removal of this element from the diet resulted in prompt and absolute cure in both cases.

A diagnosis of iodized-salt acne has been made in three additional cases. In two of these patients, the acne disappeared spontaneously after elimination of this salt, and substitution of the ordinary table salt. No follow-up report could be obtained from the third patient. A recurrence of acne in a 20 year old girl was also attributed to the exclusive use of this salt. A return to the ordinary table salt resulted in a complete disappearance of the acne is less than four weeks.

1410 Medical Arts Building.

REPEATED PERFORATIONS OF PEPTIC ULCERS WITH RECOVERY *

S. PAUL EHRLICH, M.D., MINNEAPOLIS

A case of repeated perforations of peptic ulcers with recovery is here presented because of the rarity with which one can trace the same patient through three perforations occurring at three different sites and on three separate occasions.

A review of the literature[1] reveals frequent multiple perforations and an occasional consecutive perforation.

REPORT OF CASE

The history of the patient dates back to 1920, when he was 16 years of age. At this time he began to have epigastric distress following meals, which was relieved by food and sodium bicarbonate. His symptoms continued as epigastric distress for about one and a half years, when they became more severe and more or less constant. This continued until Feb. 16, 1923, when he was seized with an acute attack of epigastric pain. He was taken to the Cook County Hospital, Chicago,[2] where he was found to be suffering from a perforated gastric ulcer.

At operation the perforation was located along the lesser curvature of the upper anterior surface of the stomach. There was a large indurated perforated crateriform ulcer about 6 cm. in diameter, with a linear perforation of 3 cm. The gallbladder was firmly bound to this area by light fibrinous adhesions. Bile-tinged serum was present in the abdominal cavity. The gallbladder was freed from the ulcer and three rows of catgut sutures were inserted, the edges of the ulcer being inverted. The omentum was sewed over the closed ulcer by two catgut sutures.

Convalescence was uneventful on a Sippy management, and the patient discharged, March 18, 1923, as improved.

He remained on the Sippy regimen for about one week after leaving the hospital. He then moved to Minneapolis. In the latter part of April, 1923, he began to develop some epigastric distress following meals, which was relieved by food and sodium bicarbonate. His symptoms continued with increasing severity until June 19, 1923, when he was seized with another acute attack of epigastric pain.

The patient was admitted to the Minneapolis General Hospital with the symptoms of a perforated gastric ulcer. He was operated on immediately under local anesthesia by a member of the surgical staff (Dr. Maxeiner). A tumor about the size of a walnut and involving the first inch of the duodenum was found. It was hard and firm as cartilage. In the center of this mass was found a perforation. On account of the slight amount of tissue remaining, the perforation was closed by overfolding the wall of the stomach, and covered with omentum. A posterior gastro-enterostomy was done, the modified Moynihan technic being used. Chromic catgut was used throughout. The patient stood the operation well, and had an uneventful convalescence. He was discharged, July 12, 1923.

He was placed on a Sippy diet following operation and remained on this regimen for about one year, with relief from all symptoms. About July, 1924, he deviated from his diet but did not have any trouble for about a half year.

In 1925, epigastric distress again set in. It was mild in character at first, but of increasing severity as time went along, and was relieved by food and sodium bicarbonate. For three weeks prior to Jan. 14, 1928, the symptoms had become so severe that he could not obtain relief by the usual methods. January 14, a third attack of acute epigastric pain seized the patient. He was again admitted to the surgical service of the Minneapolis General Hospital with symptoms suggesting perforated ulcer.

He was again operated on by a member of the surgical staff (Dr. O. A. Olson). A jejunal ulcer about 1 inch distal to the gastro-enterostomy was found. This was resected and found to be a chronic ulcer. The gastro-enterostomy gave away during the procedure, and a portion of it consisting of friable tissue was also resected and the gastro-enterostomy repaired in the usual manner. Convalescence was uneventful on a Sippy diet and the patient was discharged, January 31. He promised to adhere strictly to his diet.

SUMMARY

I would emphasize in this case that the first ulcer occurred on the lesser curvature of the stomach, proximal to the pylorus, the second postpyloric and the third jejunal. The jejunal ulcer was 1 inch distal to the gastro-enterostomy and had no connection with the gastro-enterostomy. Convalescence following each operation was uneventful, and the patient was free from symptoms on a Sippy diet. On each occasion, soon after the patient deviated from the diet, the symptoms recurred and continued as such, gradually increasing in severity until perforation occurred. The literature contains reports of frequent single perforations and an occasional consecutive perforation with recovery, but as far as can be determined this is the only case on record of three distinct perforations at three intervals with recovery.

* From the B Surgical Service of Dr. Edward Moren, Minneapolis General Hospital.

1. Ramstad: Acute Perforation of Stomach, Minnesota Med. **4**: 430-436 (Sept.) 1920. Koucky, J. D.: Consecutive Perforations of Duodenal Ulcers, S. Clin. N. Amer. **6**: 1053 (Aug.) 1926. Masson, J. E., and Simon, H. E.: Multiple Perforated Gastric Ulcers, Minnesota Med. **10**: 289 (May) 1927.

2. From the records of the Cook County Hospital.

FAMILIAL FACIAL PALSY *

M. REESE GUTTMAN, M.D., CHICAGO

The report of this case is prompted by its rarity and apparent familial incidence.

Mrs. F. C., seen for an irrelevent complaint, presented also a right facial palsy, with typical distortion. The palsy was apparently of the central type, as the forehead did not evidence any involvement and the orbicularis was unaffected. While voluntary movements were absent, there was some response in emotional movements, as in laughing and smiling. The angle of the mouth had a distinct droop on the affected side; whistling was impossible; she could not show her teeth on that side, nor could she alternately blow up one cheek after the other. Her speech was somewhat impaired. Gustatory involvement was absent, the sense of taste being intact, and the hearing as shown by the usual tests was normal. The electrical reactions were normal. These observations definitely established a central lesion as the underlying cause of the paralysis. The general physical examination, except for a normal thyroid enlargement, which was the presenting complaint, was essentially negative. The laboratory reactions were normal as far as the blood, urine and Wassermann tests were concerned.

The condition came on fairly suddenly about four years previously, when the patient was 25 years of age. She awoke one morning to find that her right cheek was stiff and difficult to move, and that it interfered with her speech. She had not been exposed to a draft or cold at any time, as the palsy came on during the month of August of that year. The stiffness increased until three days later she had a facial paralysis that was as complete as it is at the present time. She volunteered the information that the occurrence was not a great surprise as several relatives on her mother's side were similarily affected and that it ran in the family.

* From the clinic of Drs. J. C. Beck and H. L. Pollock.

Through careful questioning and correspondence with the affected members of the family, the following information was obtained:

1. The first to be affected as far as could be determined was the maternal grandmother, who exhibited a facial palsy at the age of 58. She had seven children, three girls and four boys.

2. Of the seven children, four have to the present date shown a facial palsy, three boys and one girl. One was affected at the age of 17, one at the age of 19, one at the age of 44 and one at the age of 51. One of the remaining girls who has not been so affected is the patient's mother.

3. The paralyses of the uncles and aunts were of the central type as they could wrinkle their foreheads; the paralysis was permanent after it once set in, and it did not come on after exposure. The grandmother's paralysis was presumably of the same type, although none were sure that she could wrinkle her forehead. None of the living members of the family had a positive Wassermann reaction.

The apparent familial incidence is not very clear, to me at least. Coincidence might be an explanation. Refrigerant palsy as well as syphilitic palsy has apparently been ruled out. An underlying hereditary central lesion can be only conjectural. A perusal of the literature has not disclosed a similar occurrence.

2551 North Clark Street.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. W. A. PUCKNER, SECRETARY.

ALUCOL NOT ACCEPTABLE FOR N. N. R.

"Alucol," marketed by The Wander Company, Chicago (Dr. A. Wander, S. A., Berne, Switzerland, manufacturer), is stated to be colloidal aluminum hydroxide formed into tablets with excipients, to be used therapeutically as an antacid. On the basis of the information submitted, the Council found the following objections to the product:

1. The claim that Alucol is "manufactured by a special process." From the submitted information the product appeared to be made in the conventional way by decomposition of aluminum salts with alkali in the presence of water.

2. The claim that the administration of Alucol removes the excess of acid from the stomach juices but leaves sufficient to carry on digestion. The evidence presented for this claim was not conclusive.

3. The occurrence in the advertising of arguments that the current use of alkalis is harmful, statements being adduced such as that (*a*) alkalis do not remove the excess of acid from the system; (*b*) they interfere with normal gastric digestion; (*c*) they have no sedative effect and form no protective layer over the gastric mucosa, and (*d*) they lead to toxic effects. No doubt there are elements of truth in these statements; but sodium bicarbonate, calcium carbonate, magnesium oxide and bismuth subcarbonate have been used extensively and successfully for years. The Council does not know of injurious effects of any moment from the intelligent use of the common alkalis.

A statement of these objections was forwarded to the distributor with the statement that the Council found Alucol unacceptable because of unwarranted claims and because the application of a proprietary name to a well known substance is not in the interest of rational therapy.

In reply the distributor stated that Alucol is not ordinary aluminum hydroxide, offering in support a report from Mr. Jerome Alexander to show that the acid-absorbing power of Alucol was much higher than that of ordinary aluminum hydroxide. The firm also offered to revise its therapeutic claims. The A. M. A. Chemical Laboratory examined the evidence of Mr. Jerome Alexander. The report of the Laboratory shows that the acid-absorbing power of Alucol does not differ materially from that of aluminum hydroxide, but that the preparation does differ in its jelly-forming properties, probably because of its colloidal character. However, the name "Alucol" cannot be recognized on this ground for the reason that such a colloidal product was introduced many years ago (Cloetta, M.: *Cor.-Bl. f. schweiz. Aerzte* **30**:947 [July 22] 1916).

The point of the possible harmful effects from the continued use of a preparation containing aluminum having been raised by a member of the Council, a review of the literature was made. As a result the Council felt obliged to ask for evidence that the continued use of Alucol does not produce harmful effects.

The distributor was informed that the Council would accept Alucol (*a*) if it is marketed in the United States under a descriptive name such as colloidal aluminum hydroxide with definite standards of identity and uniformity that shall be found acceptable; (*b*) if acceptable evidence is offered to show that the use of the product does not produce harmful effects, and (*c*) if the therapeutic claims are based only on its protective action on the gastric mucosa and on its moderate reduction of gastric acidity. The claims shall not (unless acceptable evidence is offered to the contrary) imply that while it reduces acidity it does not retard gastric digestion, and shall omit the unsupported statements concerning the harmfulness of sodium bicarbonate, magnesium oxide and other alkalis currently used in the treatment of hyperacidity.

The distributor, when informed of the Council's action, stated that the report was being considered and being forwarded to the parent house in Switzerland. Since then more than six months have elapsed, but the product has not been made acceptable. On the contrary, advertisements have appeared using the objectionable name "Alucol" and containing claims to which the Council has objected. The Council therefore decided to reject Alucol and to publish this report for the information of the medical profession.

LENS EXTRACT (MULFORD) NOT ACCEPTABLE FOR N. N. R.

Lens Extract, marketed by the H. K. Mulford Company, is stated to be "a sterile solution of the protein from the eye lens of cattle, standardized to contain 2 per cent protein with 0.5 per cent phenol added as a preservative." It is based on the work of Dr. A. Edward Davis and was presented to the Council in 1924 for inclusion in New and Nonofficial Remedies with the claim that "by the systematic treatment with Lens Extract, incipient and immature cataracts may be retarded or entirely checked in their progress, and mature senile cataracts, or at least the cortical layers thereof, may be absorbed or liquefied." The Council asked the advice of four ophthalmologists. The consensus was that insufficient evidence existed for the value of the product and the Council postponed further consideration of Lens Extract until more evidence might become available to demonstrate its therapeutic value.

Recently an unfavorable report on the use of lens antigen was published by Dr. Zenas H. Ellis (Nonoperative Treatment of Cataract with Report on Lens Antigen Treatment, *New York State Journal of Medicine* **27**:1269 [Dec. 1] 1927). In reply to an inquiry regarding the kind of lens antigen which was used, Dr. Ellis wrote that he had used the preparation of the H. K. Mulford Company. In reply to a request for any further evidence in possession of the H. K. Mulford Company, the firm sent a list of references to publications which have appeared since the product was first considered by the Council. A number of ophthalmologists were again consulted and a review of the most recent available literature was made. This review and the advice of the Council's consultants indicate that there not only is no evidence that the substance is beneficial but that, being useless, the employment of lens extract in the treatment of cataracts is likely to result indirectly in harm to the patient suffering from the disease. The Council therefore declared Lens Extract (Mulford) unacceptable for New and Nonofficial Remedies.

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SATURDAY, JUNE 9, 1928

COPPER IN NUTRITION

The announcement made by a group of biochemical investigators from the University of Wisconsin at the meeting of the Federation of Biological Societies in Ann Arbor, Mich., a few weeks ago, regarding the function of copper as a supplement to iron for hemoglobin formation under certain conditions, has served to call attention anew to the desirability of intensive study of the action of small amounts of inorganic elements in nutrition. Our growing appreciation of the conspicuous part played by at most a few milligrams of iodine in the well being both of man and of the domestic animals has paved the way for a sympathetic attitude toward researches of this character. Nevertheless, it is important to sound a warning against unwarranted generalizations on the basis of the Wisconsin observations, for already copper is beginning to be lauded by uncritical and unscrupulous persons as a cure-all for the entire gamut of the widely different anemias.

The experimental facts are clear cut and convincing. When animals—in this research the rat was employed—are maintained on certain diets, notably an exclusive milk, or bread and milk, regimen, they develop a progressive anemia which is commonly described as "nutritional anemia." This is quite different from the depletion in blood cells that follows extensive hemorrhage. The experimental malady has afforded opportunity for the study of the possible remedial effects of various types of iron compounds, some of which have long been lauded as hematopoietic agents. There is no doubt that in some of the anemias the factor of iron starvation is operating. Various investigators have, indeed, reported regenerative and restorative effects from the addition of iron compounds to the otherwise unchanged rations; yet there were many failures. These unexpected and seemingly inexplicable outcomes led to attempts to differentiate between the possible efficiency of soluble versus insoluble iron [1] or of organic versus inorganic iron regardless of the presumptive indications that the iron is more or less ionized in any event in the intestine, so that practically all the compounds may supply identical ferruginous derivatives to the circulation.

At this juncture Waddell, Elvehjem, Steenbock and Hart [2] demonstrated that highly purified inorganic iron salts (chloride, sulphate, acetate, citrate and phosphate) fail to increase materially the hemoglobin level in the animals experiencing nutritional anemia. However, many natural foods, such as liver, lettuce and corn, are remedial. Furthermore, the ashed residues from dried beef liver, dried lettuce and yellow corn, and acid extracts of these, are effective in curing the anemia produced in rats by a diet of cow's whole milk. The most tenable explanation appeared to lie in the assumption that, in addition to iron, the ashes and extracts of the ashes of corn, lettuce and beef liver contained some other substance or substances vitally concerned in the building of hemoglobin. What this substance was remained to be learned, but that it was inorganic in nature was definite. Necessarily such a substance would have to be active in exceedingly small amounts.

The subsequent story [3] of how the missing essential was discovered to be copper, present in traces in many natural foods (and hence in their ash), furnishes the record of a distinguished research added to the many for which the Department of Agricultural Chemistry at the University of Wisconsin has already become celebrated. A trace of copper supplied along with iron salts eliminates the anemia hazard from the experimental diets already mentioned. Thus, copper appears to be a factor somehow in the building of hemoglobin. The Wisconsin biochemists point out that the occurrence of copper in plant and animal tissues has been known for some time, but no definite function has been assigned to it except in the case of some mollusks and crustacea in which it is a constituent of hemocyanine, a respiratory pigment. Recently copper has been reported as occurring in blood both by McHargue [4] and by Warburg and Krebs,[5] the latter finding in the serum of human blood an amount approximating 0.0017 mg. of copper per cubic centimeter and an amount of about the same order associated with the serum proteins. We are reminded, further, that from the limited data available in the literature one would judge that the new-born come into the world fairly well stocked with copper as well as iron, and during the suckling stage these reserves become exhausted, with final dependence for a supply placed on the food material ingested.

One is tempted to speculate on the mechanism through which copper functions; but such efforts

1. Mitchell, Helen S., and Schmidt, Lola: The Relation of Iron from Various Sources to Nutritional Anemia, J. Biol. Chem. **70**: 471 (Oct.) 1926.

2. Waddell, J.; Elvehjem, C. A.; Steenbock, H., and Hart, E. B.: Iron in Nutrition: VI. Iron Salts and Iron-Containing Ash Extracts in the Correction of Anemia, J. Biol. Chem. **77**: 777 (May) 1928.

3. Hart, E. B.; Steenbock, H.; Waddell, J., and Elvehjem, C. A.: Iron in Nutrition: VII. Copper as a Supplement to Iron for Hemoglobin Building in the Rat, J. Biol. Chem. **77**: 797 (May) 1928.

4. McHargue, J. S.: Am. J. Physiol. **72**: 583 (May) 1925.

5. Warburg, O., and Krebs, H. A.: Biochem. Ztschr. **190**: 143, 1927.

would doubtless be as premature as the expectations that the new discovery has dispelled the problems of every type of anemia that confronts the clinician. The most that can be asserted with some confidence at this time is that we may need to reckon with traces of copper in some of the most fundamental reactions of the organism.

STANDARDIZATION OF EPHEDRINE PREPARATIONS

The precipitous rise in popularity of ephedrine compounds, since the discovery of their previously little recognized properties, has been interesting. The primary reason for the development is the possibility of obtaining somewhat epinephrine-like reactions from a drug which can be given orally and which is much more resistant to oxidation than epinephrine. At first —before its wave of popularity had progressed far— reports of varying activity of ephedrine were published, probably because unstandardized products had been used. But by careful conformity on the part of manufacturers to the devised standards, physicians for the most part have been furnished with high grade ephedrine products. This has resulted in the obtaining of relatively uniform clinical results. Naturally, also, there has been a wider and more confident demand for such a product than for one handicapped by uncertainty with regard to action, purity and potency.

The A. M. A. Chemical Laboratory, in cooperation with the Council on Pharmacy and Chemistry, has been in considerable measure instrumental in arriving at the highly satisfactory condition that exists with regard to the market supply of this drug in America. A recent contribution by Dr. J. B. Peterson [1] of the Association Laboratory points out that the problem was studied carefully, specimens of ephedrine and its salts were obtained and examined, and standards elaborated at the time when ephedrine and its compounds were just beginning to be popular. Six different specimens of ephedrine hydrochloride, six specimens of ephedrine sulphate and two specimens of ephedrine alkaloid were investigated. The present market specimens have, with few exceptions, better physical characteristics than had the laboratory specimens reported in the literature more than twenty years ago when ephedrine was being studied from a purely chemical standpoint.

Crystallographic examinations were also made on behalf of the laboratory for ephedrine hydrochloride and for ephedrine sulphate; in each case this confirmed the chemical examination. One of the difficulties in elaborating standards was the fact that ephedrine is one of four optically active isomers, two of which are dextrorotatory and two of which are levorotatory. A combination of melting point and optical activity determinations was used to rule out the three unwanted isomers. On the basis of such tests as these, combined with the usual methods of assay, standards were evolved satisfactorily to both the physician and the manufacturer.

The evaluation and standardization of new remedies intended for the medical profession is one of the most important functions of the laboratory. Unless the products are standardized, comparable clinical investigations cannot be reported. The elaborated standards for ephedrine hydrochloride and ephedrine sulphate permit investigation of these drugs to be on a scientific, comparable basis. Again is emphasized the growing realization that the first step in the investigation by a therapist of a new remedy is determination of its chemical composition and purity.

The pharmaceutic manufacturers of these drugs welcome the work of the laboratory and show a commendable spirit of cooperation. As was brought out in its report to the Board of Trustees,[2] the A. M. A. Chemical Laboratory is continuing to examine every dosage form of ephedrine and its salts submitted to the Council on Pharmacy and Chemistry. While this has been a laborious task, it has been well warranted, as five different dosage forms (ampules, tablets, capsules, etc.) were rejected on the basis of chemical examination. In each instance the manufacturers instituted investigations to overcome the difficulties. This illustrates again the protection for the public and the physician which organized medicine is able to maintain.

THE CAUSES OF DEAFNESS

Under the auspices of the Division of Medical Sciences of the National Research Council, a distinguished committee has just made available the results of a survey as to the physical causes of deafness in the United States.[3] This report,[4] published in the *Archives of Otolaryngology*, gives the results of the examination of 3,734 patients in nine different institutions.

In his introduction to the report, Dr. Charles W. Richardson points out the method of organization of the work and the scope of the studies. These systematic inquiries not only reveal the present status of deafness but also point the way to preventive and curative methods.

Apparently the sex of the person is not important as related to congenital or acquired deafness. Perhaps the most dangerous period for the development of

1. Peterson, J. B.: Indust. & Engin. Chem. **20**: 388, 1928.

2. Reports of Officers, J. A. M. A. **90**: 1456 (May 5) 1928.

3. The committee consisted of Dr. Charles W. Richardson, chairman, Dr. Wendell C. Phillips, Dr. George E. Shambaugh and successively, ex-officio as chairmen of the Division of Medical Sciences, Dr. Victor Vaughan, Dr. Ludvig Hektoen and Dr. Howard T. Karsner. The committee was assisted by Drs. E. W. Hagens, J. W. Holderman, R. W. Watkins, Alice K. Hall and Douglas Macfarlan. The work was supported by a grant from the Laura Spelman Rockefeller Memorial Fund. Financial assistance for the Chicago survey was provided by the Institute of Medicine of Chicago.

4. Physical Causes of Deafness: Report of Committee, Division of Medical Sciences, National Research Council: Part I. Method of Study, C. W. Richardson; Part II. Statistical Studies of the Children in the Public Schools for the Deaf, G. E. Shambaugh, assisted by E. W. Hagens, J. W. Holderman and R. W. Watkins, Arch. Otolaryng. **7**: 415 (May) 1928.

severe deafness in children is before they have reached the third year. Much of the evidence is due, however, to the fact that parents are unwilling to admit that children are born deaf and that it is only after the child has reached the age of 2 that the parents become convinced that the child does not hear and arrange for suitable diagnosis. The relationship between infectious disease and acquired deafness is correctly established and discussed in considerable detail. When the infection reaches the nerves associated with hearing, the results are likely to be disastrous. Infections of the tonsils and adenoids, although a factor in producing mild cases of deafness in children, are not held to be responsible for the production of deafness since suppuration of the labyrinth would have to be bilateral, which was not found to be the case. A most detailed investigation concerned the relationship of heredity and consanguinity to deafness. Seven hundred and twenty-three cases were studied from which it is concluded that the pathologic condition, except for congenital deafness, is usually in the nature of a developmental anomaly involving the internal ear.

The series of studies here reported is but the beginning of more extensive investigations to be carried on in the future. The establishment of basic facts is fundamental to progress in any scientific field. It is to be hoped that by continuation of this work a lessened incidence of deafness will occur in the coming years and thereby a vast amount of unhappiness prevented among human beings.

Current Comment

TYPHOID FROM HARBOR WATERS: CONTRIBUTIONS FROM NEW HAVEN

In 1894 it was established that typhoid may be transmitted by oysters. At that time, such a disclosure had dramatic qualities. Only fourteen years before, Eberth had demonstrated the relationship between the typhoid bacillus and typhoid; Pasteur was still alive; Robert Koch and Edwin Klebs had nearly two decades of life before them, and many laymen and some physicians did not "believe in germs." H. W. Conn, professor of biology at Wesleyan University in Connecticut, was a pioneer in American bacteriology. In the fall of 1894, a typhoid epidemic broke out at Wesleyan. Professor Conn recalled that the fraternities had held their initiation banquets about two weeks before the outbreak and he discovered that all the cases of typhoid were confined within the membership of certain fraternities. Raw oysters had been on the menu of the banquet of each of these fraternities and investigation disclosed that the oysters had all come from oyster beds which were not far from the outlet of the New Haven city sewers. Oysters from these beds were found to contain typhoid bacilli. In this manner, New Haven early took an important place in the history of typhoid. Now, an investigation of water pollution at bathing beaches comes from the same city. Sixty-one cases of typhoid, which occurred during the summer of 1921-1922, were found by Ciampolini and Hitchcock [1] to be the result of bathing in New Haven harbor. Winslow and Moxon [2] have recently completed a survey of these waters and have found that only one beach, and that beyond the harbor mouth, is safe for bathing purposes. In the Quinnipiac river, near the site of the now historic oyster beds, the worst conditions are found at flood tide. In the harbor proper, on the other hand, an onshore wind increases the pollution. The authors suggest as a tentative standard of safety for bathing an average of not more than one colon bacillus per cubic centimeter, with a maximum of not more than ten. The health department of New Haven has found it impossible to prevent bathing in the upper harbor and is pushing a program of sewage treatment, together with chlorination during the bathing season. These investigations and that by W. P. Baker [3] on methods employed at the Tidal Basin Bathing Beach in Washington, D. C., are of timely interest to health officers and physicians as the bathing season approaches.

GROWTH AND DIABETES MELLITUS

In the few years that have elapsed since the discovery of insulin and its application to the management of diabetes, the outlook of persons with this defect of carbohydrate metabolism has become radically altered. This is particularly true in the case of diabetic children, in whom the effects of insulin therapy have been little short of dramatic. They have apparently been enabled to approach the status of normal children and to overcome the handicap of the marked retardation in development that was formerly so inevitable and discouraging. Obviously, the final prognosis of diabetes discovered in early childhood cannot be ventured until sufficient years have elapsed to permit a well founded judgment as to the ultimate results of the more recent therapeutic measures. Meanwhile, the reports are growing more encouraging. Childhood represents a situation in which mere control of diabetes mellitus is far from a satisfactory goal. The growth and development characteristic of the early adolescent period must also become a reality. The latest records from the department of pediatrics of the State University of Iowa College of Medicine, as obtained by Boyd and Nelson [4] in a group of carefully managed cases, show that, so far as can be determined by measurements of height and weight, the majority of these diabetic children are growing at a satisfactory rate. The average rate of growth is superior to that obtained from observations made on selected groups. Heretofore there have been some reports of gains in weight without corresponding increments in stature. The character of the growth in the Iowa children is apparently normal. Without exception, Boyd and

1. Cited by Winslow and Moxon (footnote 2).
2. Winslow, C.-E. A., and Moxon, D.: Bacterial Pollution of Bathing Beach Waters in New Haven Harbor, Am. J. Hyg. **8**: 299 (May) 1928.
3. Baker, W. P.: Application of Swimming Pool Sanitation to the Public Bathing Beach, J. A. M. A. **89**: 907 (March 31) 1923.
4. Boyd, J. D., and Nelson, Martha V.: Growth Studies of Children with Diabetes Mellitus, Am. J. Dis. Child. **35**: 753 (May) 1928.

Nelson state, the children appear vigorous and healthy, and seem out of place in a ward of sick children. The nutritional state as indicated by the weight appears satisfactory. The majority do not show visual evidence of being overweight for height. The few that tend toward obesity are those in whom control has been inadequate or of brief duration. In fact, the growth response of these carefully regulated diabetic children seems to be greater than that of so-called superior groups of nondiabetic children. These experiences, in which expert attention has been directed so profitably to the nutrition of growth, raise pertinent questions with respect to child welfare in general. Boyd and Nelson make the pointed comment that the present concept of the rate of normal development for a healthy child may not equal his optimum, and that this might be better approximated by careful dietary regulation throughout childhood. In any case the hope is encouraged more than ever before that "diabetes in itself is not incompatible with normal growth, provided the control is such that prolonged or repeated hyperglycemia is avoided and the child's nutritional requirements are met by an adequate diet."

EMOTIONAL POLYCYTHEMIA

In contrast with the excessive erythroblastic activity of the bone marrow designated, in its chronic form, as erythremia there is an acute manifestation of increase in the red cells of the blood somewhat familiar as emotional polycythemia. It has been observed experimentally in animals that have been subjected to undue excitement. The increment in the number of erythrocytes in the peripheral circulation has been reported as high as 25 per cent or more. There are even records of the influence of emotional excitement on the blood count. In students just after an examination Ferrari found an average of 457,000 more erythrocytes per cubic millimeter than in the same students before the examination—the higher counts corresponding to the most excited, the lowest to an "indifferent and phlegmatic" member of the group, according to a recent review.[1] Such gains are conceivably due to removal of plasma from the circulation, with consequent augmentation of the cell counts per unit of blood; or erythrocytes may actually be discharged into the blood stream from some reservoir. It is asserted that emotional stress leads to an augmented output of hormone from the suprarenal medulla—a known cause of increase in erythrocytes. A few years ago the liver was regarded as the store of the red cells that could be discharged into the circulation on appropriate occasions. The newer studies of Barcroft and others [2] on the probable rôle of the spleen as an erythrocyte reservoir led Izquierdo and Cannon [1] of the Harvard Medical School to consider this organ in relation to emotional polycythemia. They concluded that the blood is not thickened by transudation; and they stress the fact that the remarkably sharp rise in the erythrocyte count which normally accompanies excitement fails to appear when the spleen is denervated, thus pointing to that organ as the immediate cause of polycythemia. The spleen is not provided with arrangements for producing the effect by removing plasma from the circulating blood. It is a reservoir of red corpuscles. Incidentally the hyperglobulia described fits into the general scheme of sympathicosuprarenal adaptation of the organism to meet emergencies. The mechanism is operated in emotional excitement, in physical exertion, in cold and in asphyxia and further, according to the Harvard physiologists, the bodily changes that are induced may reasonably be interpreted as adjusting the organism to the conditions that then prevail or are then likely to prevail.

1. Izquierdo, J. J., and Cannon, W. B.: Studies on the Conditions of Activity in Endocrine Glands: XXIII. Emotional Polycythemia in Relation to Sympathetic and Medulliadrenal Action on the Spleen, Am. J. Physiol. **84**: 545 (April) 1928.
2. Contractility of the Spleen, Current Comment, J. A. M. A. **89**: 1065 (Sept. 24) 1927.

Association News

THE MINNEAPOLIS SESSION

Alumni Meeting of St. Louis University School of Medicine

There will be a meeting of the Alumni Association of the St. Louis University School of Medicine during the annual session of the American Medical Association at Minneapolis, probably on June 13. The time and place of the dinner meeting will be announced later.

Meetings of Clinical Interest

Below is a program showing meetings of clinical interest which will be held on the first two days of the annual session:

DIAGNOSTIC CLINICS

AUDITORIUM, MONDAY, JUNE 11

9 A. M.—PEDIATRICS — McKIM MARRIOTT, St. Louis
9:45 A. M.—HEADACHE — ROY A. BARLOW, Madison, Wis.
10:30 A. M.—DISEASES OF THE BONES AND JOINTS — H. WINNETT ORR, Lincoln, Neb.
11:15 A. M.—PULMONARY TUBERCULOSIS AND BRONCHIECTASIS — F. M. POTTENGER, Los Angeles
1 P. M.—INJECTION TREATMENT OF VARICOSE VEINS — DEXTER H. WITTE, Milwaukee
1:30 P. M.—UROLOGY — FRANK HINMAN, San Francisco
2 P. M.—GOITER — FRANK H. LAHEY, Boston.
2:45 P. M.—DIABETES — ELLIOTT P. JOSLIN, Boston
3:30 P. M.—PERNICIOUS ANEMIA — J. H. MUSSER, New Orleans
4:15 P. M.—NEUROLOGY — PETER BASSOE, Chicago

CLINICAL LECTURES

AUDITORIUM, TUESDAY, JUNE 12

9 A. M.—PEPTIC ULCER — R. C. COFFEY, Portland, Ore.
10 A. M.—TULAREMIA — EDWARD FRANCIS, Washington, D. C.
11 A M.—EFFECTS OF LIGHT ON LIVING TISSUE — W. T. BOVIE, Chicago
2 P. M.—DIAGNOSIS OF DISEASES OF THE GALLBLADDER — EVARTS A. GRAHAM, St. Louis
3 P. M.—MANAGEMENT OF LABOR — CARL HENRY DAVIS, Milwaukee

The Physician and Politics.—Time was when at least one physician was to be found on almost every school board, and when a considerable sprinkling of physicians was to be found in every state and national legislative body. At present physicians are infrequently found on school boards, and with the exception of certain states, as Virginia and North Carolina for example, the number of physicians in legislative assemblies is reduced almost to the vanishing point.—Wilson, L. B.: *Minnesota Med.* **11**:366 (June) 1928.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Unique Plan for Graduate Study.—Members of the Yavapai County Medical Society and of the staff of the U. S. Veterans' Hospital at Fort Whipple have a plan for medical meetings, which divides the members into three groups, and from October until April two groups at each bimonthly meeting discuss cases selected from Cabot's case histories. They may study the cases in advance of meetings, but they must speak extemporaneously. They appoint judges for the year, and at the end of the season the group with the lowest grade gives the other groups a banquet. Excellence of presentation, correctness of diagnosis, evidence of study and attendance are considered by the judges. During the last year each group registered 100 per cent attendance. At the banquet, April 13, at Prescott, the losers were not announced until after the banquet. A group is allowed thirty minutes to discuss the case assigned. The captain decides how it shall be presented and who shall speak but each member must speak an equal number of times in the year. The judges grade the discussion at each meeting and the secretary keeps the grades sealed until the end of the year. This plan of study has been in operation for about seven years.

ARKANSAS

Society News.—Dr. Charles E. Hurley, Bentonville, presented a case of ainhum before the Benton County Medical Society, April 17, at Gravette; Dr. Samuel A. Grantham, Joplin, Mo., spoke on "Surgical Diseases of the Spine"; Dr. James R. McVay, Kansas City, Mo., addressed the society at Rogers, recently, on "Diagnosis and Treatment of Peptic Ulcer."——The surgeon general recommended that Dr. Fleming J. O'Connor, major, medical reserve corps, Little Rock, be assigned to active duty, May 1, for three months at the school of aviation medicine, San Antonio, Texas, for training.——The Leo N. Levi Memorial Hospital, Hot Springs, recently received a donation of $15,000 from Louis M. Steinberg which, with a sum already held by the hospital, will make possible the erection of a clinic building.

CALIFORNIA

Society News.—Members of the Los Angeles County Medical Association were guests of the city health department, May 21, on the eighth floor of the city hall. Dr. George H. Parrish, health officer, presided during a program of short speeches and amusements.——Robert C. Burt, Ph.D., Pasadena, addressed the Pacific Physiotherapy Association, Los Angeles, May 23, on "Ultraviolet, Its Physics and Measurement."

San Diego's Death Rate.—An item, published, April 28, entitled "Health at San Diego" was based on reports from the U. S. Department of Commerce, which indicated that the death rate for San Diego was 22.3 per thousand of population for the week ending April 14. Dr. James M. McColl, president of the San Diego County Medical Society, writes that the mortality rate in San Diego appears high because the department of commerce makes its computation on the basis of 110,000 people, whereas the registration of voters shows a population of more than 150,000, and figuring on the basis of school enrolment the population exceeds 147,000; either of these figures, if used, would lower the mortality rate. Aside from this, Dr. McColl says that San Diego has a large number of people of advanced age who have gone there to retire. The death rate among these elderly persons also tends to increase the death rate of San Diego.

GEORGIA

Personal.—Dr. Matthew C. Baines, for seven years commanding officer of the U. S. Veterans' Bureau Hospital at Augusta, has been transferred to a similar position at the veterans' bureau hospital in the Bronx, New York.——Dr. David W. Register has been appointed health officer of Moultrie.

State Medical Election.—At the annual meeting of the Medical Association of Georgia, Savannah, May 9-11, Dr. Cyrus K. Sharp, Arlington, was made president; Dr. William R. Dancy, Savannah, president-elect; Drs. William E. McCurry, Hartwell, and Madison Hines Roberts, Atlanta, vice presidents; Dr. Allen H. Bunce, secretary, reelected. The delegates to the American Medical Association are Drs. William H. Myers, Savannah, and Elmore C. Thrash, Atlanta, and the alternates, Drs. William A. Mulherin, Augusta, and Charles W. Roberts, Atlanta. The next annual meeting will be in Macon, May 8-10, 1929.

IDAHO

Society News.—At the May 9 meeting of the Southwest Idaho District Medical Society, Dr. Brien T. King, Seattle, discussed toxic goiter; Dr. George C. Miller, Seattle, vascular diseases of the extremities; Dr. Howard P. Kirtley, Salt Lake City, Utah, endometritis; Dr. George G. Richards, Salt Lake City, Utah, medical management of gastric ulcer, and Dr. Laurence R. Quilliam, Boise, neurosyphilis.——Dr. Stephen D. Brazeau, Spokane, Wash., addressed the Nez Perce County Medical Society, Lewiston, recently, on diseases of the nasal sinuses.——Dr. A. G. Sheets, Fairfield, has been appointed health officer of Camas County.——Dr. Owen D. Platt has sold his hospital at St. Maries to Dr. George G. Espe. Dr. Platt has practiced in this community for many years.

ILLINOIS

Lost Diploma Found.—The state department of registration and education writes to thank THE JOURNAL for aid in locating state medical license number 17104. A change of secretaries in a fraternity house was responsible for the apparent loss of the diploma. It had been put away in a safe. License number 17215, issued to Dr. John Edwin Habbe, has not yet been found. The department of registration and education will appreciate information concerning it (THE JOURNAL, April 21, p. 1297).

Personal.—Dr. Horace B. Dunn, Rockford, received a medal, May 17, from the British government for his assistance in rescuing passengers of the British ship *Worcestershire* which was sunk by a submarine off the coast of South Africa in 1917. Dr. Dunn was serving in the capacity of a civilian physician on board at this time.——Dr. Jonathan L. Wiggins, East St. Louis, has retired after more than fifty years of practice, and will make his home in La Jolla, Calif. A banquet was given in his honor, June 1, by his associates.

Society News.—Roscoe W. Thatcher, LL.D., formerly professor of chemistry, University of Minnesota, will address the Institute of Chemistry of the American Chemical Society, Evanston, Friday evening, July 27, on "The Development of Agricultural Research."——The eighty-first semiannual meeting of the Aesculapian Society of the Wabash Valley was held at Danville, May 31. Among the speakers were Drs. Charles E. Ragan, Terre Haute, Ind., on "Recognition and Prevention of Threatened Shock During Anesthesia"; Leslie H. Dunham, Danville, "X-Ray Diagnosis of Chronic Appendicitis"; Thomas O. Freeman, Mattoon, "State Medicine," and John M. Dodson, Chicago, "What the Medical Profession Has Not Done and Why." This is said to be the oldest medical society west of the Alleghany Mountains.

Chicago

Society News.—Among others, Dr. Anny M. C. E. P. Saunders addressed the May meeting of the Chicago Pathological Society on "Fluctuations of Hydrogen Ion Concentration of Saliva in Epilepsy."——At the annual meeting of the Chicago Pediatric Society, May 15, Dr. Maurice L. Blatt was elected president; Dr. William McClure, Evanston, vice president; Dr. Joseph K. Calvin, secretary, and Dr. Gerard Krost, treasurer.——The council of the Chicago Medical Society has appointed a "medical policy commission" comprising one member from each branch and a chairman, to be appointed by the chairman of the council. The commission is to function for three years or more, and Dr. Edward H. Ochsner was appointed chairman.

Alumni Program at Northwestern.—The program at Northwestern University Medical School, 303 East Chicago Avenue, June 15 and 16 (during commencement week) will open with an address by Dr. Irving S. Cutter, the dean. There will be class dinners, Friday evening, and the annual alumni dinner, Saturday evening, at the Drake Hotel. On the Friday scientific program, Dr. Charles A. Elliott will discuss "Association of Hyperthyroidism with Cardiovascular Disease"; Dr. John Gordon Wilson, "Chronic, Progressive Nonsuppurative Deafness"; Dr. Robert B. Preble, "Cardiac Emergencies"; William T. Bovie, Ph.D., "Application of Physics in Medicine and Surgery"; Leslie B. Arey, Ph.D., "The Ovary in Menstruation and Pregnancy"; Arthur I. Kendall, Ph.D., "Hypotension," and Dr. Andrew C. Ivy, "The Rôle of the Hormones in Digestion." On Saturday, Dr. Frank H. Lahey, Boston, will

give a lantern slide demonstration on "Pharyngo-Esophageal Diverticulum"; Dr. Joseph B. De Lee will give a moving picture demonstration on "Low Forceps with Episiotomy and Repair" and "Eclampsia," and Dr. Allen B. Kanavel, a moving picture demonstration of "Infections of the Hand and Their Sequelae."

INDIANA

Personal.—Dr. James Wilson was elected president of the Eleventh Indiana Councilor District Medical Society, May 17; Dr. Wilson is also mayor of Wabash. Among the features of the meeting were a clinic conducted by Dr. William A. Jenkins, Louisville, Ky., and an address by Dr. Herman L. Kretschmer, Chicago.

Hospital News.—The $500,000 wing of St. Mary's Mercy Hospital, Gary, was dedicated, April 22; on the same day, the new $1,250,000 St. Catherine's Hospital, East Chicago, opened its doors to the public. Both of these hospitals are under the direction of the Poor Handmaids of Jesus Christ. ——The Methodist Hospital, Indianapolis, is to erect a $70,000 addition to the laboratory and roentgen-ray unit.

Dr. Barnard Heads Honey Institute.—Harry E. Barnard, Ph.D., formerly president of the American Institute of Baking, Chicago, has been appointed head of the newly organized American Honey Institute with headquarters in Indianapolis. The institute was formed following a meeting of the Bee Industries Association of America in Chicago in February. Dr. Barnard was born in New Hampshire and educated as a chemist. He has been associated with the New Hampshire State Board of Health and the Indiana State Board of Health; for twelve years he was state food commissioner of Indiana, which position he resigned to organize the American Institute of Baking, which he conducted for eight years.

LOUISIANA

Society News.—A branch laboratory of the state board of health has been opened in Alexandria as a part of the Rapides health unit. The laboratory is a cooperative effort; the state board of health furnishes the equipment and material for its use; the parish pays the technician's salary and furnishes the quarters, and the city furnishes the utilities, gas, water and electricity.——Dr. Eugene Davis, for several years medical officer-in-charge of the U. S. Veterans' Hospital, New Orleans, was presented with a ring by the patients as a token of their esteem previous to his departure to Memphis, Tenn., for assignment to duty at U. S. Veterans' Hospital number 88.

Summer Courses at Tulane.—All summer medical courses at Tulane University of Louisiana School of Medicine, New Orleans, will start, June 18, and continue for six weeks. The registration fee is $5, and each course includes the same number of lectures and hours of laboratory and clinical work as the corresponding courses during the regular session. They are conducted with the same standard of presentation, and credit is given. The courses will include anatomy, embryology, histology, neuro-anatomy, biochemistry, special pathology, physiology, physical diagnosis and several courses in medicine. Inquiries should be addressed to the dean, Dr. Charles C. Bass, 1551 Canal Street, New Orleans.

Increase of Mental Patients.—Between 1922 and 1927 the increase in the number of first admissions to state hospitals in Louisiana was relatively greater than the growth in the state's population, as shown by the fact that the first admissions in 1927 numbered 32.3 per hundred thousand of population as compared with 29.7 in 1922. A census of mental patients made by the U. S. Department of Commerce showed that the two state hospitals of Louisiana, during 1927, had a total of 624 first admissions, as compared with 547 in 1922. The number of mental patients under treatment in the state hospitals has increased steadily from 1,915 on Jan. 1, 1910, to 3,673 on Jan. 1, 1928. Of the first admissions last year, 322 were males and 302 females, while of the total number of patients on January 1, 1,835 were males and 1,838 females. These figures are based on reports furnished by the institutions.

MARYLAND

State Health Officer Resigns.—Dr. John S. Fulton has resigned as director of the state department of health and has been appointed director emeritus. Dr. Robert H. Riley, the assistant director, has been appointed by the governor to succeed him. Dr. Fulton has been connected with the department since 1896.

Resignations at Johns Hopkins.—Dr. John Warton Harris, associate professor of obstetrics, Johns Hopkins University School of Medicine, Baltimore, has resigned, effective at the end of the scholastic year, to become professor of obstetrics and gynecology at the University of Wisconsin Medical School, Madison. Dr. Sydney W. Britton, associate in physiology at Johns Hopkins, will also leave at the end of the scholastic year to become professor of physiology at the University of Virginia Department of Medicine, Charlottesville. The third resignation is that of Dr. Phyllis Greenacre, associate in psychiatry. Dr. Greenacre is now on leave conducting a clinic for a department of child welfare in White Plains, N. Y.

MICHIGAN

Sanitation of Swimming Pools.—The department of health of Detroit announces a report on the sanitary condition of Detroit swimming pools in the first quarter of this year; only one pool showed organisms of the *B. coli* group in excess of 10 per hundred cubic centimeters, and that pool showed these organisms only once in thirty-six samples collected. All together twenty-eight pools were free from *B. coli* for three months. In the first quarter of 1925, 36 per cent of the pools failed to meet the health department's standards; in 1926, 3 per cent failed, and in 1927, 6 per cent.

Personal.—Dr. William M. Dobson left the U. S. Veterans' Bureau Hospital at Camp Custer, June 1, to take a similar position at the hospital at New Bedford, Mass.——Ollie E. Reed, head of the dairy husbandry division, Michigan State College of Agriculture, East Lansing, has been appointed chief of the bureau of dairy industry, U. S. Department of Agriculture, effective, September 2, succeeding Carl W. Larson, Ph.D., who resigned several months ago to become director of the National Dairy Council.——Dr. S. Rowland Hill has been reappointed city health officer of Lansing.

Society News.—The Oakland County Medical Society, Birmingham, was addressed, May 24, by Dr. Angus McLean, Detroit, on "Results of War from the Medical Standpoint." Films were presented by the Oakland County Tuberculosis Association entitled "Let Your Doctor Decide" and "Delay Is Dangerous," stressing the importance of early diagnosis of tuberculosis.——Dr. Hugh Cabot, dean and professor of surgery, and Dr. Preston M. Hickey, professor of roentgenology, University of Michigan Medical School, Ann Arbor, addressed the Wayne County Medical Society, Detroit, May 22, on "Lesions of the Stomach," and "X-Ray Diagnosis of Stomach Conditions," respectively. Dr. Edward G. Martin has been elected president of the society for the ensuing year.—— Dr. Robert S. Stone, Detroit, was awarded the prize for the best paper read in the last year before the Noon-Day Club of Detroit.

Health Examination Week.—The Kent County Medical Society sponsored a health examination week in Grand Rapids, May 21-26, to demonstrate to the public the importance of annual physical examinations. Persons unable to pay were offered examination without charge at the outpatient departments of the hospitals. Public health meetings were held. Prof. William D. Henderson, Ph.D., secretary, joint committee on public health education, and director, University of Michigan Extension Division, gave the opening address. Other speakers were Dr. Harrison S. Collisi, president of the county medical society, and Dr. Sumner Merrill Wells, Jr., chairman, public health education committee of the county society. Drs. Thomas D. Gordon, Abel J. Baker and Vernor M. Moore spoke on conserving the health of the child, keeping young at 50 and cancer signals, respectively. The medical society held a dinner meeting, May 23; Dr. Joseph L. Miller, professor of clinical medicine, University of Chicago School of Medicine, gave an illustrated lecture on "The Diseases of Ancient Man," and Dr. Burton R. Corbus, councilor, spoke on "The Health Education Program of Organized Medicine." The graduate nurses of the district offered their services to the hospitals to supplement the regular nursing personnel during health examination week.

MINNESOTA

Personal.—Dr. M. Davidson has been appointed assistant superintendent of the Ancker Hospital, succeeding Dr. Edward T. Thompson, who has been appointed administrator of the University of Indiana hospitals, Indianapolis.

Silver Anniversary of Tuberculosis Society.—The Hennepin County Tuberculosis Society will celebrate its silver anniversary, June 15. It was organized in 1903 as the Anti-Tuberculosis Committee of the Associated Charities, and credit is given to Mrs. George H. Christian for first urging that aid be extended to the tuberculous poor in their homes. At that time, Minneapolis had no tuberculosis hospitals, no tuberculosis clinics, no tuberculosis nurses and no preventive program. The

society served under the Associated Charities for seventeen years; it has been a separate corporation for eight years. Minneapolis now has free clinics for persons unable to pay a private physician, public and private sanatoriums, nurses who work in the preventive and curative fields, a home for discharged patients, and an employment service for those able to work; it also carries on a campaign of education for the public. At the celebration a history of the achievements of the organization will be presented. Past presidents will be the guests of honor. Dr. Linsly R. Williams, managing director, National Tuberculosis Association, New York, and others connected with the national organization, will speak.

MISSOURI

Professors of Ophthalmology and Bacteriology Appointed. — The dean of Washington University Medical School, St. Louis, announces that Dr. Harvey J. Howard has been appointed full-time professor of ophthalmology in the medical school, and that Jacques J. Bronfenbrenner, Dr.P.H., has been appointed professor and head of the department of bacteriology and immunology. Dr. Howard spent about twelve years practicing medicine in China (THE JOURNAL, May 21, 1927, p. 1669). Dr. Bronfenbrenner comes to Washington University from the Rockefeller Institute for Medical Research, New York.

State Medical Election.—At the annual meeting of the Missouri State Medical Association, Kansas City, May 14-18, Dr. Frank I. Ridge, Kansas City, was installed as president; Dr. Tolman W. Cotton, Van Buren, made president-elect; Dr. George W. Hawkins, Salisbury, treasurer, reelected, and Dr. Edward J. Goodwin, St. Louis, secretary, reelected. Delegates to the American Medical Association will be Drs. Edward H. Skinner, Kansas City; Wilson J. Ferguson, Sedalia, and Arthur R. McComas, Sturgeon, and the alternates, Drs. Ellsworth H. Trowbridge, Kansas City; Stuart L. Baysinger, Rollo, and Homer L. Kerr, Crane. The next annual meeting will be at Springfield, in May, 1929.

Society News.—Dr. William T. Coughlin, St. Louis, gave an address and clinical demonstration on goiter, April 4, before St. Clair County (Ill.) Medical Society.——At a dinner at the Missouri Athletic Club, St. Louis, April 27, given by Dr. Jonas C. Lyter, the guest of honor was Dr. Peter T. Bohan, Kansas City, and his subject "Medical Economics."——The program of the St. Louis Medical Society, May 29, was presented by the urology department of Washington University. The speakers were Drs. Harry G. Greditzer, Alexis F. Hartmann, John R. Caulk and Charles M. M. Gruber.——The dermatologic department of St. Louis University School of Medicine, gave the program, May 1, before the St. Louis Medical Society; Dr. Thomas Noxon Toomey discussed "The Gold Treatment of Psoriasis"; Dr. Garold V. Stryker, "Davis Treatment for Pemphigus"; Dr. Joseph Grindon, "Advances in the Therapeutic Uses of Gold and Arsenic," and Dr. Norman Tobias, "Bismuth in Syphilis."——About $12,000 was realized from the annual country carnival given in the interest of the proposed St. Louis Charity Hospital, recently, at the country home of Mr. and Mrs. Samuel W. Fordyce at Kinloch in St. Louis County.

NEW YORK

State Medical Election.—At the annual meeting of the Medical Society of the State of New York, May 21-24, Albany, Dr. Harry R. Trick, Buffalo, was made president; Dr. James N. Vander Veer, Albany, president-elect; Drs. Thomas H. Farrell, Utica, and Edward W. Weber, White Plains, vice presidents; Dr. John A. Card, Poughkeepsie, speaker; Dr. Daniel S. Dougherty, New York, secretary, and Dr. Charles Gordon Heyd, New York, treasurer.

Study of Boys' Clubs.—New York University has appropriated $36,000 for the department of educational sociology for a three year study of boys' clubs of New York. There will be eight $1,000 fellowships and eight $200 tuition scholarships for personnel, and credit will be given toward degrees. Applications are solicitated. The director of the study will be Frederick M. Thrasher, New York University, Washington Square East, New York, to whom applications should be sent.

Society News.—The Associated Physicians of Long Island held an outing at Montauk, June 12.——The Medical Society of the County of Queens adopted tentative plans for a building for the society as submitted by the board of trustees at the April meeting, provided that the total cost of the building and equipment shall not exceed $250,000; the board was authorized to make contracts and financial arrangements to complete the project. Dr. Raymond P. A. Sullivan, New York, addressed this meeting on "Hyperthyroidism; Its Surgical Aspects."

State Society Endorses Cattaraugus Protest. — At the annual meeting of the Medical Society of the State of New York, Albany, May 21, the house of delegates unanimously passed the following resolution:

Resolved, That the House of Delegates of the Medical Society of the State of New York sustains and endorses the protest of the Cattaraugus County Medical Society in its opposition to the Milbank Health Demonstration as at present conducted by the State Charities Aid Association, because it (the Milbank Foundation) has not governed itself either in spirit or practice by the principles laid down by this society for the conduct of its members in their relation to public health work conducted by lay organizations.

Buffalo Convicts Unlicensed Chiropractor. — The first trial of an unlicensed chiropractor, charged with practicing medicine without a license, since the new medical practice act became effective was that of Frank Consiglio of Buffalo whom a jury found guilty, May 23. The maximum sentence under the law is two years imprisonment and a $500 fine. It is reported that the parents of a 3 year old boy testified that Consiglio diagnosed their child's ailment as rickets and curvature of the spine. He indicated that he could cure the child in eight months and that it would cost $200. The parents testified that they paid the chiropractor $40 before his arrest.

New York City

Society News.—The New York Academy of Medicine has appointed a committee on international medical relations, which will classify and correlate facilities for graduate education abroad and facilitate the exchange of students on a scholarship basis; it will cooperate with the Institute of International Education, the International Medical Club of New York and other institutions.——A memorial fund in memory of the late Dr. Jonas E. Reinthaler has been established, according to the superintendent of the Beth Israel Hospital, where Dr. Reinthaler served on the staff for twenty-five years.——The library of the New York Academy of Medicine will close at 5 o'clock from June 15 to September 15, except on Wednesday evenings, when it will close at 10:30.

Head of Milk Bureau Retires.—The health commissioner announces the retirement, after twenty years' service, of Mr. James E. Thomson, acting director of the bureau of food and drugs which has charge of milk inspection, and the appointment of Andrew Reitwiesner, assistant director, to succeed him. The bureau of food and drugs and the sanitary bureau are to be merged, giving a force of about 250 inspectors who may be mobilized in time of need for health work. Each of these men will have a beat, Dr. Harris says, like that assigned to a policeman, on which he will be responsible for violations of sanitary regulations pertaining to the streets, smoke, manufacture, sale and distribution of foods and many nuisances that may occur.

Personal.—Dr. Edwin H. Fiske, Brooklyn, has been elected president of the medical board of Kings County Hospital, succeeding Dr. Calvin F. Barber, who retired after many years' service as president of the board. Dr. Paul L. Parrish was elected vice president, succeeding Dr. William Browning, who also has served many years in that capacity; Dr. George A. Merrill was reelected secretary.——Dr. Otto Glogau has received from the Austrian Republic, through the American consul general, a gold medal for service to sick and poor children. Dr. Glogau founded the American Convalescent Home for Vienna's Children and assisted in the repatriation of war prisoners.——Dr. William B. Coley was elected an honorary member at the annual meeting of the Association of Surgeons of Great Britain and Ireland, May 3-5, Newcastle-on-Tyne.——Dr. Michael A. Iogolevitch, formerly professor of neurology and psychiatry in Petrograd, has been appointed lecturer in the department of neurology at the New York Polyclinic Medical School and Hospital.——Robert Chambers, Jr., Ph.D., professor of microscopic anatomy, Cornell University Medical College, has been appointed by New York University to be chairman of the department of biology and research professor of biology at its Washington Square College.

NORTH DAKOTA

Society News.—At the April 12 meeting of the Sixth District Medical Society, Bismarck, Dr. William H. Condit, Minneapolis, spoke on "Tumors and Lesions of the Labia, Cervix and Vagina," and Dr. Andrew B. Rivers, Rochester, Minn., on "Peptic Ulcer."——The tenth annual meeting of the North Dakota Academy of Ophthalmology and Otolaryngology was held at Devils Lake, May 23; Dr. Charles E. Connor, St. Paul, gave an illustrated address on "Otitic Thrombophlebitis"; Dr. Arthur T. Bailey, Jamestown, was elected president for the year, succeeding Dr. Rolfe Tainter of Fargo.

OHIO

Personal.—Dr. Meyer Amdur, Toledo, has accepted the clinical directorship of the psychopathic department of Gallinger Hospital, Washington, D. C.——Dr. Auguste Rhu, Marion, has been elected president of the Hocking Valley Railway Company Surgeons' Association.——Dr. Chandler P. Robbins, Columbus, of the division of communicable diseases, state department of health, addressed the Tuscarawas County Medical Society, March 8, on "Advances in Immunology"——Dr. Fielding O. Lewis, Philadelphia, addressed the Toledo Academy of Medicine, May 4, on "Treatment of Laryngeal Cancer."

Dr. **Wilce Resigns.**—Dr. John W. Wilce has tendered his resignation as director of football at Ohio State University, Columbus, effective in June, 1929. The athletic board accepted the resignation with regret and adopted a resolution praising his long and faithful service. Dr. Wilce graduated from the University of Wisconsin and from Ohio State University College of Medicine and for fifteen years has been director of football at Ohio State University. He expects to engage in the practice of medicine. In the fourteen football seasons, excluding the year of the war, the Ohio state teams under his direction won sixty-nine games, lost twenty-eight and tied eight.

Society News.—The Montgomery County Medical Society, Dayton, was addressed, June 1, by Dr. Reuben Peterson, professor of obstetrics and gynecology, University of Michigan Medical School, Ann Arbor, on "The Social and Medical Aspects of Sterilization."——A testimonial dinner in honor of the emeritus members of the Toledo Academy of Medicine was given, June 1. The honored guests included Drs. Herman Bamberger, Oshea S. Brigham, William Cherry, James A. Duncan, Thomas Hubbard, James T. Lawless, Sr., Oscar M. Main, Edward Melchers, Moses D. Rabenoyich, Edwin D. Tucker and John A. Wright. A general meeting was held following the dinner; the speaker was Dr. Irvin Abell, Louisville, Ky., and his subject, "The Bleeding Uterus."

Toledo **Team Wins Golf Trophy.**—For the fourth consecutive year, the golf team of the Toledo Academy of Medicine was the winner of the annual Ohio State Medical Golfing Association, which was held during the meeting of the Ohio State Medical Association at Cincinnati; it carried away the permanent team trophy donated by Dr. John T. Murphy. The players in the team were Drs. Henry L. Wenner, Jr., Charles Lukens, Galen F. Bowman, Louis R. Effler and John T. Murphy. The championship was won by Dr. Wesley L. Furste with a low gross of 121 for twenty-seven holes. The president's trophy was won by Dr. Louis R. Effler and the prize for the best net score in nine holes by Dr. Nicholas J. Seybold. The sixth annual tournament of the Toledo Academy of Medicine will be played, June 14, over the Inverness course at Toledo, and Detroit has challenged the best twelve players to a match in that city, July 11. Toledo also plans to play the medical teams at Cleveland, Sandusky and Jackson.

OREGON

Personal.—Dr. Ralph A. Fenton and Olof Larsell, Ph.D., of the University of Oregon Medical School, Portland, were awarded the Casselberry prize of $500 by the American Laryngological Association in session in Washington, D. C., May 2, for work on the pathway of pain referred to the ear in nose and throat diseases.

License Revoked.—The state board of medical examiners reports that the license of Dr. James E. Bridgewater of Albany, Ore., was revoked as of May 24. The reason given was that he had been found guilty of unprofessional and dishonorable conduct as a physician and surgeon in that, about May 2, he procured, aided and abetted a criminal abortion.

PENNSYLVANIA

Centennial Anniversary of County Society.—The Chester County Medical Society celebrated its centennial anniversary, May 15, in conjunction with the Chester County Historic Society. Dr. William T. Sharpless, West Chester, and Dr. Charles W. Burr, Philadelphia, gave addresses and Charles W. Heathcote, Ph.D., West Chester, gave an address on "Historic Chester County."

Increase of Mental Patients.—Between 1922 and 1927, the increase in the number of first admissions to the state hospitals in Pennsylvania was relatively greater than the growth of the state's population, as shown by the fact that the first admissions in 1927 numbered 21.6 per hundred thousand of population as compared with 18.9 in 1922. There was, however, a slight decrease in the ratio of first admissions to population in 1927 as compared with 1926. A census of mental patients made by the U. S. Department of Commerce in the nine state hospitals of Pennsylvania showed a total of 2,101 first admissions during 1927 as compared with 1,706 in 1922. The number of mental patients under treatment in the mental hospitals has increased steadily from 8,556 on Jan. 1, 1910, to 12,328 on Jan. 1, 1928. There was an especially rapid increase between 1923 and 1926. On Jan. 1, 1928, there were under treatment 125.8 patients per hundred thousand of the population, as compared with 111.6 patients per hundred thousand on Jan. 1, 1910. Of the first admissions to the state hospitals of Pennsylvania, in 1927, the males numbered 1,159 and the females 942, while of the total number of patients present, Jan. 1, 1928, the males numbered 6,579 and the females, 5,749. These figures were furnished by the institutions through the state department of welfare, and the 1927 and 1928 figures are preliminary and subject to correction.

Philadelphia

Dr. Gleason Honored.—Dr. Edward B. Gleason, professor of otology, University of Pennsylvania Graduate School of Medicine, was guest of honor at the fourth annual dinner of the Physicians' Square Club, May 25, in recognition of his having completed fifty years in the practice of medicine. Dr. Gleason is a past president of the Philadelphia Laryngological Society. George H. Meeker, Ph.D., dean of the graduate school, University of Pennsylvania, and Drs. Joseph C. Doane, superintendent of the Philadelphia General Hospital, and Samuel A. Savitz were the speakers. Dr. Herbert M. Goddard, president of the club, presided, and about 200 persons attended.

Society News.—Work is to start at once on the new six story building for the Temple University School of Medicine at Broad and Ontario streets. Half of the $1,000,000 being sought had been contributed, May 15.——Josiah H. Penniman, Ph.D., provost of the University of Pennsylvania, gave the address at the one hundredth and sixth annual commencement of the Philadelphia College of Pharmacy and Science, June 6.——Dr. Clarence A. Patten addressed the College of Physicians of Philadelphia, June 6, on "Infectious Polyneuritis with Facial Diplegia"; Dr. Francis C. Grant, "Surgical Measures for the Relief of Pain in Malignant Disease," and Dr. John C. Hirst, II, "Kidney Complications of Pregnancy."

Jefferson Alumni Banquet.—At the annual dinner of the Alumni Association of Jefferson Medical College, May 31, Dr. Willard H. Kinney, president of the Alumni Association, was toastmaster. Dr. John H. Gibbon, professor of surgery, represented the faculty among the speakers; Dr. Peter W. Tomlinson, Wilmington, Del., talked on "Fifty Years of Practice," and Dr. Harold L. Foss, Danville, on "Twenty Years of Progress in Medicine." The one hundred and third annual commencement of Jefferson Medical College was held, June 2. There were 144 graduates. The honorary degree of doctor of science was conferred on Dr. Henry A. Christian, professor of the theory and practice of physic, Medical School of Harvard University, Boston, who delivered the commencement address.

Pennsylvania Alumni Day.—Clinics and demonstrations for the alumni will be presented, June 15-16, at the Philadelphia General Hospital, the university medical school, the University Hospital, the medical laboratories, the Presbyterian Hospital, the new graduate hospital of the university and the laboratory of hygiene. Following the general alumni celebration, Saturday, busses will convey those who wish to go to Valley Forge. The annual meeting of the medical alumni will be in the evening at Weightman Hall. The provost of the university will welcome the medical alumni at 9 p. m., following which there will be greetings from members of the faculty and a buffet supper and smoker. Silver cups will be awarded to the class having the most members present, to the oldest alumnus present and to the alumnus who came the greatest distance.

Hospital News.—A new building is being erected at Spruce and Darien streets, by the Pennsylvania Hospital for the Philadelphia Lying-In Hospital, with which it became affiliated two years ago. It will be nine stories high, of colonial architecture, with wards, private rooms and facilities for persons of moderate means. The Philadelphia Lying-In Hospital, which celebrated its one hundredth anniversary, May 11, is said to be the oldest maternity hospital in the country.——The Hahnemann Medical College and Hospital of Philadelphia laid the cornerstone of its new building, April 23.——The consulting staffs of the Philadelphia General Hospital, since the completion of its new buildings, have been increased until they include 123 physicians and surgeons; the director of public health announced the appointment of eight new chiefs of the consulting staffs, May 23.——The William B. and Adeline Hackenburg Maternity Building of the Jewish Hospital, Broad and Tabor streets, was opened May 27. The director of public health, Dr. Andrew A. Cairns, delivered the dedicatory address.

SOUTH DAKOTA

Personal.—Dr. Francis E. Clough, after twenty-five years of service with the Homestake Mining Company of Lead, has resigned and will locate in some city of the state. Dr. Clough was president of the state medical society in 1923.

Society News.—Dr. Harry Milton Conner, Rochester, Minn., addressed the Yankton District Medical Society, April 24, on "Pernicious Anemia"; Dr. John P. Isaac, Freeman, on "Review of Medical Ethics," and Dr. Eugene M. Stansbury, Vermilion, on "Diathermy as an Aid in Treatment of Compound Fractures."——The chemistry building, with all the records and material of the South Dakota State College, Brookings, was destroyed by fire, February 4.

Increase in Mental Patients.—Between 1922 and 1927 the increase in the number of first admissions to the state hospitals in South Dakota was relatively greater than the growth in the state's population, as shown by the fact that the first admissions in 1927 numbered 29 per hundred thousand of population as compared with 25.5 in 1922. A census of mental patients made by the U. S. Department of Commerce showed that the state hospital at Yankton had a total of 202 first admissions during 1927, as compared with 168 in 1922. The number of mental patients under treatment in the state hospital has increased steadily from 804 on Jan. 1, 1910, to 1,366 on Jan. 1, 1928. Of the first admissions during 1927, the males numbered 132 and the females, 70, while of the total number of patients present, January 1, the males numbered 802 and the females, 564. The number of patients under state hospital care per hundred thousand of population showed an especially rapid increase during the year 1927 and also between the years 1910 and 1922, when the rate per hundred thousand increased from 137.7 to 180.7.

TENNESSEE

Personal.—Dr. William D. Haggard, Nashville, was toastmaster at the annual banquet of the Vanderbilt chapter of Alpha Omega Alpha, May 15; the following alumni were initiated: Drs. Eugene L. Bishop, state health officer; Ira R. Sisk, Madison, Wis.; Beverly T. Nolen, Franklin; Henry Clay Long, Knoxville, and Capt. Joe H. St. John, U. S. Army Medical Corps.——Dr. Martin H. Lovell has been appointed assistant in pathology at Meharry Medical College, Nashville, and resident pathologist to the George W. Hubbard Hospital.

Society News.—At the May 11 meeting of the Middle Tennessee Medical Association, Franklin, Dr. Sam P. Bailey, Nashville, was elected president; Dr. Dan German, Jr., Franklin, vice president, and Dr. Murray B. Davis, Nashville, secretary. The November meeting will be held at Columbia. More than 100 physicians attended the Franklin meeting.——Dr. William W. Core celebrated his twenty-eighth anniversary as superintendent of the Davidson County Isolation Hospital, Nashville, April 30.——Dr. James S. Lyons, Rogersville, was elected president of the East Tennessee Medical Society, May 11, and Dr. Jesse C. Hill, Knoxville, secretary. ——Dr. Bailey B. Sory, Cedar Hill, addressed the Robertson County Medical Society, recently, on "Treatment of Lobar Pneumonia."——Dr. William S. Rude, Ridgetop, addressed the Sumner County Medical Society, March 7, on "Early Diagnosis of Tuberculosis."——Dr. J. Walter McMahan has resigned as medical director of the Aluminum Company of America at its plant in Alcoa on account of ill health.——Dr. Lorenz A. Miesch, Bolivar, has accepted a position at the Feebleminded Institute at St. Louis.——Dr. and Mrs. G. Canby Robinson were entertained at dinner, May 23, by Dr. and Mrs. Waller S. Leathers. The Robinsons leave shortly to make their home in New York, where Dr. Robinson has been appointed dean and director of the new medical center to be constructed by Cornell University Medical College and the New York Hospital.—— At the commencement of Meharry Medical College, Nashville, May 24, a gift of $18,500 from the senior class to the endowment fund was announced. Thirty-seven members of this class will pay $25 annually for twenty years, starting three years after graduation.——A children's clinic was held at the Rutherford Hospital, Murfreesboro, May 2-3, to which parents were invited to bring children to the clinic for examination and diagnosis; the visiting clinicians were Drs. Seale Harris, Birmingham, Ala.; Horton R. Casparis, Nashville, and D. Lesesne Smith, Spartanburg, S. C.——Dr. Heddy S. Shoulders addressed the Nashville Academy of Medicine and Davidson County Medical Society, in April, on "Roentgen-Ray Observations in Some Diseases of the Chest"; Dr. Granderson H. Bradley, "Treatment of Infectious Diarrhea in Infancy," and Dr. Edwin A. Sayers, "Head Injuries"; Dr. James F. Cooper of the American Society for Birth Control, New York, gave an address.

WASHINGTON

Personal.—Thirteen citizens of Seattle presented an automobile to Dr. Lewis R. Dawson, recently, in appreciation of his long service in the community. Dr. Dawson has practiced medicine in Seattle about forty years, and during the Spanish-American War served with the First Washington Infantry, U. S. Volunteers.

Society News.—Dr. Thomas M. Joyce, Portland, Ore., addressed the Spokane County Medical Society, Spokane, May 10, on "Analysis of Gastric Surgery"; Dr. James Marr Bisaillon, Portland, on the roentgen ray in diagnosis, and Dr. Frank R. Menne, Portland, on iodine and goiter.——The Spokane Clinical Society held a series of clinics and demonstrations, May 25-26, at the Sacred Heart, Deaconess and St. Luke's hospitals.——Dr. John Wilson Reed, Casland, has taken over the management of the Vallamont Hospital near Valley.——Dr. Roger S. Anderson, Seattle, addressed the Snohomish County Medical Society, Everett, May 1, on fractures of the femur, illustrated with motion pictures.—— Dr. William House, Portland, addressed the Clarke County Medical Society, May 8, on "Indications for Surgery with Reference to the Nervous System."

WEST VIRGINIA

Personal.—Dr. William C. Camp, Spencer, has been appointed health officer of Roane County.——Dr. Henry F. Spillers, Wheeling, formerly superintendent of the Ohio Valley General Hospital, has become associated with the Panhandle Realty Company; J. Stanley Turk has been appointed superintendent of the hospital to succeed Dr. Spillers.

Society News.—Dr. Charles A. Ray, Charleston, president of the West Virginia State Medical Association, addressed the Lewis County Medical Society, April 10, on "Medical Ethics."——Dr. Albert G. Rutherford, Welch, addressed the McDowell County Medical Society, April 11, on "Diagnosis and Management of Ruptured Appendix."——Dr. Grattan G. Irwin, Charleston, addressed the Raleigh County Medical Society, Beckley, April 26, . . "Care of the Prostatic Patient." ——Dr. Andre Crotti, Columbus, Ohio, addressed the Ohio County Medical Society, Wheeling, March 30, on "Experimental Research Work on Etiology of Endemic Goiter"; Dr. Edward J. G. Beardsley, Philadelphia, addressed the society, May 9, on "Conditions That Simulate Pneumonia."—— Dr. Henry W. Bettmann, Cincinnati, addressed the Academy of Medicine of Parkersburg, April 5, on "Duodenal Ulcer."

WISCONSIN

Student Day.—May 25 was "student day" at the University of Wisconsin Medical School, Madison, when the students were guests of the faculty at a luncheon. Student papers were read, followed by exhibits and demonstrations, and an interclass ball game was played. The address of the day was given by Edwin B. Hart, professor of agricultural chemistry at the university, on "New Inorganic Factor as Supplement to Iron in Hemoglobin Building."

Paratyphoid Fever at Beloit.—An outbreak of paratyphoid fever in Beloit, which began April 7, amounted to 114 cases with two deaths up to June 2, when the health officer, Dr. Clifford W. Andrews, stated that the epidemic was under control and that no new cases were being reported. The infection was traced to a carrier who worked in a local dairy ice cream plant, and the product was contaminated after being pasteurized. The infection was with paratyphoid B and was mild.

GENERAL

Society News.—At the annual meeting of the American Society for Clinical Investigation, Washington, D. C., April 30, Dr. John C. Meakins, Montreal, was elected president; Dr. James L. Gamble, Boston, vice president; Dr. George A. Harrop, Jr., Baltimore, treasurer, and Dr. Joseph T. Wearn, Boston, reelected secretary.——Dr. William E. Deeks, New York, was elected president of the American Society of Tropical Medicine at the annual meeting, Washington, D. C., May 1-2; Dr. Kenneth M. Lynch, Charleston, S. C., and Sidney K. Simon, New Orleans, vice presidents, and Dr. Edwin Peterson, Washington, D. C., secretary treasurer.

National Colloid Symposium.—The sixth National Colloid Symposium will be held at Toronto, Canada, June 14-16, under the auspices of the colloid division of the American Chemical Society. The guest of honor will be Sir William B. Hardy, Cambridge, England, and among other features of the program

will be the following papers bearing directly on medicine: Dr. William L. Robinson, University of Toronto Faculty of Medicine, whose subject is "The Filtration of Colloids by the Spleen"; Albert B. Hastings, Ph.D., University of Chicago, "The Rôle of Hemoglobin in the Blood," and Dr. H. A. Abramson, "Cataphoresis of Blood Cells and Inert Particles in Sols and Gels and Its Biologic Significance" (with motion pictures).

International Ophthalmological Congress. — Members desiring to read papers at the International Ophthalmological Congress to be held at Amsterdam and at The Hague, Sept. 5-13, 1929, should send an abstract containing the principal conclusions to the secretary, Prof. W. P. C. Zeeman, Wilhelmina Hospital, Amsterdam, Holland, not later than June 1, 1929. Application for membership should be sent as early as possible. The subscription, which amounts to $10, should be sent to the treasurer, Dr. H. M. Roelofsz, 531 Heerengracht, Amsterdam. There is to be a symposium on trachoma by Arganaraz of Buenos-Aires; Crönholm of Helsingfors; von Gross of Budapest; Maggiore of Sassari; Mijashita of Tokio; Sobhy Bey of Cairo; Soria of Barcelona; Duke Elder of London; Hagen of Oslo; Magitot of Paris, and Wessely of Munich, and a discussion of the diagnosis of supracellar tumors by Christiansen of Copenhagen, Cushing of Boston, Holmes of London, and Van Bogaert of Antwerp. Reports are to be presented to the council, which will publish them and send them to members, on examination of visual acuity by Dufour of Nancy and Elschnig of Prague; on perimetry by Lauber of Vienna, Peter of Philadelphia and Traquair of Edinburgh; on notation of the cylinder axis by Marquez of Madrid and Nordenson of Upsala; on examination of light sense by Hertel of Leipzig and Ovio of Padova; on standardization of the visual examination of railwaymen, motor drivers, seamen and airmen by Engelking of Freiburg i/Br., McMullen of London, Onfray of Paris and Verrey of Lausanne, and on uniformity in the program of ophthalmologic studies by Lindner of Vienna and Parker of Detroit.

Renewal of Registration Under the Harrison Narcotic Law.—Physicians who desire to continue to administer, dispense and prescribe narcotics must renew their registration under the Harrison Narcotic Law on or before June 30, paying the annual tax, one dollar. Failure to do so carries with it liability to criminal prosecution and subjects the tardy registrant to a 25 per cent increase in the tax. Registration in class IV carries with it the right to administer, dispense and prescribe narcotics generally, but does not entitle the registrant to *dispense* the so-called exempt preparations. If the physician desires also to *dispense* such preparations, he should register in class V as well as in class IV. No extra tax is collectible for the dual registration. Registration in class V is not required of physicians who only *prescribe* the so-called exempt preparations. If a physician limits his use of narcotics to the *dispensing* of so-called exempt preparations, he need only register in class V, in which case a tax of one dollar must be paid. The exempt narcotic preparations include those that do not contain more than 2 grains of opium, or more than one-fourth grain of morphine, or more than one-eighth grain of heroin, or more than 1 grain of codeine, or any salt, or derivative of any of them in 1 fluidounce, or, if a solid or semisolid preparation, in 1 avoirdupois ounce; or to liniments, ointments, or other preparations which are prepared for external use only, except liniments, ointments and other preparations which contain cocaine or any of its salts or alpha or beta eucaine or any of their salts or any synthetic substitute for them. These preparations, in order to come within the exempt class, must contain active medicinal drugs other than narcotics and must be used as medicines and not for the purpose of evading the provisions of the act.

CANADA

Personal.—Sir Wilfred T. Grenfell received the honorary degree of doctor of laws from McGill University, Montreal, May 30, in recognition of his services in establishing hospitals and nursing homes along the coast of Labrador.

Montreal Reorganizes Health Department.—A new order of things pertaining to health seems to be under way in Montreal. The health department under Dr. Séraphin Boucher has been reorganized, new appointments to the staff have been made, and an additional appropriation of $150,000 for the department has been allowed. Montreal appears also to have a new mayor who, in the campaign for election, made public health one of his foremost planks. The health department has been strengthened, and it is predicted that a repetition of the recent typhoid epidemic now would be impossible.

Insulin Distributed Free—Traveling Clinics. — Insulin is being distributed free to diabetic patients by the Ontario government at the rate of more than 1,000,000 units a month. The cost to the government during April for its manufacture and distribution was $5 per patient. According to the Canadian Social Hygiene Council, a traveling clinic toured northern Alberta during May; two physicians, a dentist and three nurses cooperated with the local physicians or dentists (where there were any). They did educational work, examinations and, in special cases, minor operations. A clinic gave free dental treatment to about 1,000 people in scattered sections of Sasketchewan, most of whom, it is said, would have been financially unable to secure treatment if this service had not been available. A program recently completed in this province resulted in giving "mouth inspection" to about 100,000 children, who also received charts showing the condition of their mouths and advice as to what should be done. Talks were delivered in all parts of the province, moving pictures were exhibited, and 95,000 pamphlets on dental health were distributed.

Canadian Medical Association Meeting.—The fifty-ninth annual meeting of the Canadian Medical Association will be held at Charlottetown, June 18-22, with headquarters at the Prince of Wales College. There will be no sectional meetings, all papers being presented in general session. The afternoons will be left free for entertainment. This is an innovation. The annual dinner dance will be Wednesday evening, and the second annual golf tournament, Tuesday; the prize is a cup donated by the Ontario Medical Association. The annual dinner of the alumni and class reunions will be Friday evening. There will be a garden party, Wednesday afternoon, at the residence of the lieutenant-governor of Prince Edward Island and another, Friday afternoon, at the home of Dr. and Mrs. Stephen R. Jenkins. Among the speakers at the scientific session will be Sir George Lenthal Cheatle, London, England, whose subject will be "Pathologic Changes in the Breast and Their Clinical Signs"; Dr. Harry A. Bray, Ray Brook, N. Y., on "Pleural Pains—Their Cause," and Dr. George Tobey, Boston, "Consideration and Treatment of Chronic Purulent Otitis Media." Tentative reservations may be made by addressing Dr. George F. Dewar, Box 155, Charlottetown, P. E. I., secretary of the local housing committee

FOREIGN

Another Physician Dies of Yellow Fever in Africa.—Dr. William Alexander Young died, May 29, at Akkra, Africa, of yellow fever, aged 39. Dr. Young was a member of the scientific party sent to that region by the Rockefeller Institute for Medical Research, New York, to conduct research on yellow fever. He is the third physician within the last few months to give up his life in this work. The others were Dr. Adrian J. Stokes of England and Dr. Hideyo Noguchi of New York. Dr. Young was of Scotch descent and received his medical education in England.

German Society for Research on Blood Circulation.—The first session of the Deutsche Gesellschaft für Kreislaufforschung, held in Cologne, Germany, March 5-6, was attended by 150 of the 170 members of the society; eight foreign countries sent representatives. The attendance proves the value of the work that the new society has undertaken. Bruno Kisch of Cologne presented in a short address the motives that induced him to found the society. The main topics on the program were discussed by H. Eppinger of Freiburg, "Problem of Circulatory Insufficiency," and J. Rihl, Prague, "Our Knowledge of Normal and Abnormal Heart Stimulation." Fraenkel of Heidelberg discussed "Treatment of the Final Stages of Chronic Cardiac Insufficiency." The complete transactions will be published by Theodor Steinkopff, Dresden.

International Conference on Light.—The first International Conference on Light will be held at Lausanne and Leysin, September 10-13. The committee of organization comprises Prof. Dr. Rosselet of Lausanne, president; Prof. Dr. Michaud of Lausanne; Drs. Exchaquet and Bach; Prof. Dr. Askanazy, Geneva; Prof. Dr. Ramel of Lausanne; Dr. L. de Reynier of Leysin; Prof. Dr. Delay of Lausanne; Dr. Decker of Lausanne, and M. Zumstein of Lausanne. The secretary for the United States is Dr. Edgar Mayer, 108 Main Street, Saranac Lake, N. Y., who will be pleased to have any worker on light who desires to participate in the conference communicate with him. There will be representatives from thirteen countries. The conference will be composed of three large divisions: (1) physiologic, chemical and meteorological; (2) biologic, and (3) therapeutic.

Government Services

Army Personals

Major John J. McCormick has been relieved from duty at Fitzsimons General Hospital, Denver, and assigned to Boston. Capt. Martin D. Mims has been relieved from duty at Chicago and assigned to Hot Springs National Park, Ark. Major Thomas L. Coley has been relieved from duty at Fort Monroe, Virginia, and assigned to the Canal Zone. Major Herbert L. Freeland has been relieved from duty at Richmond, Va., and assigned to Fort Sam Houston, Texas. Major Raymond F. Longacre has been relieved from duty at Bolling Field, Anacostia, D. C., and assigned to Washington, D. C. Major Wood S. Woolford has been relieved from duty at Washington, D. C., and assigned to Rockwell Field, Calif. Capt. Louis M. Field has been relieved from duty at Rockwell Field and assigned to Bolling Field. Capt. Harold A. Kirkham has been relieved from duty at Fort George Wright, Washington, and assigned to Fort Douglas, Utah. Major William O. Wetmore, who recently completed a tour of foreign service in the Hawaiian Department, has been assigned to duty in the surgeon general's office, effective about August 25. Capt. George P. Sandrock has been relieved from duty at Carlisle Barracks, Pa., and assigned to the Philippine Islands. Major Sidney L. Chappell has been relieved from duty at West Point, N. Y., and assigned to Fort Slocum, effective about August 20. Major Thomas E. Scott has been relieved from duty at Fort Bliss, Texas, and assigned to West Point, N. Y. Capt. Charles R. Glenn has been relieved from duty at the Walter Reed General Hospital, Washington, D. C., effective about June 1, and assigned to Fort Sam Houston, Texas.

Changes in Veterans' Bureau Personnel

The following changes are noted in the April *U. S. Veterans' Bureau Bulletin:*

HOSPITALS

Dr. James T. Arwine, transferred from Fort Harrison, Montana, to Palo Alto, Calif.
Dr. James Breslin, transferred from Sunmount, N. Y., to Castle Point, N. Y.
Dr. Robert D. Brown, resigned at Perry Point, Md.
Dr. Franklin C. Cassidy, transferred from Whipple, Ariz., to Fort Lyon, Colo.
Dr. James Christiansen, appointed at Waukesha, Wis.
Dr. George R. Curl, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. Louis M. Cusher, resigned at Waukesha, Wis.
Dr. Byron Daniel, resigned at Rutland Heights, Mass.
Dr. David J. Fanning, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. Chauncey H. Graves, transferred from Bronx, N. Y., to North Little Rock, Ark.
Dr. Samuel W. Holt, reinstated at Oteen, N. C.
Dr. James H. Huddleson, Jr., reappointed at Bronx, N. Y.
Dr. Charles J. Hufnagel, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. James R. Hunter, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. Paul E. Johnson, reinstated at Memphis, Tenn.
Dr. George H. Lowthian, appointed at Boise, Idaho.
Dr. Horatio D. Luse, transferred from Minneapolis to Excelsior Springs, Mo.
Dr. Otho R. Lynch, transferred from Knoxville, Iowa, to Northpoint, Long Island.
Dr. Harry E. Mason, transferred from Fort Harrison, Montana, to Palo Alto, Calif.
Dr. Thomas M. Maxwell, reinstated at Fort Harrison, Montana.
Dr. Meredith B. Murray, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. John F. Norris, appointed at Camp Custer, Michigan.
Dr. Thomas G. Orr, resigned at Kansas City, Mo.
Dr. Henry E. Pick, transferred from Rutland Heights, Mass., to Sunmount, N. Y.
Dr. Carl O. Reed, transferred from Fort Lyon, Colorado, to regional office, Albuquerque, N. M.
Dr. Lewis E. Scharf, appointed at Perry Point, Md.
Dr. Thomas C. Thompson, appointed at Washington, D. C.
Dr. James W. Thornton, reinstated at Palo Alto, Calif.
Dr. Cecil W. Tucker, reinstated at Fort Bayard, New Mexico.
Dr. Leon M. Wilbor, resigned at Washington, D. C.
Dr. Frederick J. Wilkiemeyer, changed from part-time to full-time specialist in pathology, Muskogee, Okla.
Dr. Oscar C. Willhite, transferred from North Chicago, Ill., to Washington, D. C.
Dr. Francis T. Williams, reinstated at Washington, D. C.

REGIONAL OFFICES

Dr. Max W. Barbour, resigned at Helena, Mont.
Dr. William P. Barron, transferred from New York to Washington, D. C.
Dr. Guy V. Forney, appointed at New York.
Dr. Elmer A. Gunderson, appointed at Chicago.
Dr. Carl J. Harris, transferred from San Francisco to Washington, D. C.
Dr. Robert P. Harris, resigned from Little Rock, Ark.
Dr. Carroll S. Middleton, resigned at El Paso, Texas.
Dr. Henry L. Orlov, appointed at New York.
Dr. Norman J. Pike, resigned at Saginaw, Mich.
Dr. Francis M. Vessels, resigned at St. Louis.
Dr. Louis A. Witzeman, appointed at Akron, Ohio.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 19, 1928.

Menstruation and Working Capacity

The Industrial Fatigue Research Board has conducted an important research into the effects of menstruation on working capacity. In the first part of a report which has just been published by the government, Miss S. C. M. Sowton and Dr. C. S. Myers deal with the influence of the menstrual cycle on mental and muscular efficiency. A group of thirteen university students were every morning put through "spearing" and "number checking" tests without being aware of the nature of the investigation. Details of the occurrence of the menstrual period were obtained by means of a short daily bulletin of the subject's condition. Sixteen industrial girls were similarly tested. The results of the experiments were analyzed by means of composite curves and other statistical methods. Of the twenty-nine subjects, seven were rejected because of insufficient data. Of the remaining twenty-two, five showed no change in the performance of the tests at the menstrual periods; in four there was a better performance; in nine the performance was worse, while four showed a better or worse performance according to their familiarity with the tests. The conclusion was that "any lowering of efficiency to the tests which occurred at or near the menstrual period was not in general greater than that which occurred at other times—that is to say, no experimental evidence was obtainable that the menstrual period in normal women is associated with serious incapacity for mental or physical work.

In a second section E. M. Bedale discusses the relation of the menstrual cycle to general functional activity. A healthy woman, aged 30, was studied. Observations were made twice in twenty-four hours of the body temperature, basal metabolism, pulse rate, blood pressure and respiration rate; vital capacity and ergometer experiments were carried out. The evidence seemed to show a periodic heightening of functional activity above the average late in the intermenstrual phase of the monthly cycle and a corresponding reduction before the onset of menstruation. There seemed no reason to think that the fundamental physiologic rhythm affected, either constantly or considerably, the quantity or quality of their industrial work, provided no pathologic condition was present.

The general conclusion from the whole is that menstruation as a rule has no noticeable effect on the working capacity of healthy women.

Paleontology and the Evolution of Man

A distinguished paleontologist, D. M. S. Watson, F.R.S., Jodrell professor of zoology and comparative anatomy in the University of London, delivered the Romanes lecture on paleontology and the evolution of man. He examined the scientific method of paleontology as applied to the study of man. It was now seventy-two years since Neanderthal man had been discovered, and since then four or five other extinct species had been added to the human family, but the remains were still few and obscure in their relations to one another. Fossils must be used as potsherds were by archeologists, and thus a geological "time scale" might be formed. The animals discovered might be divided into groups according to morphologic resemblance, but between two animals belonging to one group, such as a lion and a cat, where structure coincided, there might be difference of proportion in the size of particular organs. Such differences were illustrated by *Perissodactyli.* Discussing the relations of

modern horses to one group of these, *Hyracotherium*, the conclusion was that all horses living today are the descendants of some of the horses living at every earlier period. From such considerations it might be inferred that evolution commonly led to modifications of structure which proceeded steadily with time, and that these changes of structure were generally such as to produce greater mechanical fitness for the mode of life of the animals. But we could not be always sure that we were dealing with direct ancestors, and the process was often equivalent to treating the dress of a man's great uncle as equivalent to that of his grandfather.

Passing to the special problem of the evolution of man, Professor Watson said that remains were very few. The most primitive human remains yet discovered were those of the Java *Pithecanthropus;* then came *Eoanthropus* from Piltdown, and then the Heidelberg jaw. One might hope from these to discover the characteristic structure of early Pleistocene man, but varying resemblances and differences were found between the types. Thus, *Pithecanthropus* had immense bony eyebrow ridges; in *Eoanthropus* these were small. The lower jaw of *Eoanthropus* is like that of a chimpanzee, but the Heidelberg jaw made no approach to anthropoid structure. The brain of *Pithecanthropus* was far smaller than that of any modern man; the brain of *Eoanthropus,* though much larger, was still small. Neanderthal man, the next to these three primitive types, was much more advanced, and his graves showed evidence of flint working and religious beliefs. The remains found recently in Rhodesia were like Neanderthal man in their great eyebrow ridges but differed in almost every other respect. It was therefore not possible by such comparisons to form any satisfactory conclusion about the course of evolution.

Next comparing these early human remains with fossils of apes, Professor Watson said that experience justified the belief in the resemblance between early human teeth and those of *Dropithecus,* and that man might be the descendant of brachiating apes. The differences, however, of proportion in organs between man and a presumed gorilla ancestor were far smaller than those between man and the modern apes. The inference was that the two were descended from a common ancestor but had evolved on lines which accentuated their differences. Bodily differences, however, were unimportant as compared with those of mental equipment, and these it was not for the paleontologist to determine. They depended on the ordered arrangement of molecules in the cells of the nervous system, which must be investigated by physics and chemistry. The paleontologist was concerned only with the morphologic facts; we must look to the physiologists, chemists and physicists to explain the true nature of man's evolution and to conclude "that adventure of the spirit which is biology."

The Legal Definition of Drunkenness

In the law courts the question whether a defendant was drunk causes the same difficulty as the question whether a prisoner was insane when he committed a murder, and also gives rise to a similar clash of opinions between the lawyers and physicians. The legal mind, with all its acumen, seems to be deficient in deciding such questions because it has not had training in biology. Of course it is true that physicians often have difficulty in deciding when a man is drunk and differ from one another in particular cases. A well known neurologist who has devoted special attention to the problem has gravely suggested that the only satisfactory test of drunkenness is to puncture the cisterna magna and test the fluid for alcohol. The following case recently occurred: At a London police court a man was summoned for being drunk while in charge of a motor car and for driving in a manner dangerous to the public. The police surgeon testified that the man was drunk "in view of his symptoms and of the history of the case." The magistrate then interrupted: "I want to keep you away from that. You have nothing to do with motor cars or anything like that." The surgeon then explained that the man was in a condition in which lapses in judgment and errors of coordination were likely to occur, but he agreed that if the man had been walking in the street he would not have certified him as drunk. The magistrate remarked that the law did not require a higher degree of sobriety in those in charge of motor cars than in persons walking in the street. However, the defendant did not escape, for the magistrate fined him $70 on other charges, which included not having a driving license. Commenting on the case, the *British Medical Journal* thinks that the surgeon expressed the common sense of the situation and that he rightly had regard to the fact that the man was driving a motor car, as there are not only degrees in the state of drunkenness but degrees of culpability arising out of the circumstances in which the person under the influence of drink is placed. A similar case soon came before another magistrate in the same court. The police surgeon stated that the man was drunk, but admitted on cross examination that if it had been an ordinary case of a person charged with drunkenness he would have said that he was sober. The man's incapacity depended on what he was doing. The magistrate remarked: "That is the end of the case. You are totally wrong. That is not the law." The surgeon continued: "A doctor has no means of determining whether a man is drunk unless he is considering the particular thing the man was doing or failed to do." The magistrate replied, "If that is so you need not bother about all these tests." Whether the decisions of these two magistrates are good law and illustrate Shakespeare's words "The law is an ass" may or may not be true; but they are contrary to both common sense and logic. Take the case of a man under the influence of drink able to go home quietly if left alone. Some one interferes with him and a street brawl reveals his condition. If charged with drunkenness it would surely be no defense that he was proceeding home quietly before the brawl and for this purpose was quite sober. There are various degrees of drunkenness and it has never been laid down in law that legal drunkenness is a condition which would be manifest under all circumstances. The point is that drunkenness is revealed under certain circumstances but not under others.

Motor Accidents

The official returns of road accidents for 1927 show that the figures for London and the surrounding counties are much higher than those for the provinces. In London, one person out of 142 was injured in a road accident in 1927, against 1 in 193 in Liverpool, 1 in 213 in Birmingham and 1 in 244 in Manchester. There is a similar difference for the "home counties" (those surrounding London), of which the rates were as follows: Essex, 1 in 172; Surrey, 1 in 217; Kent, 1 in 242; Herts, 1 in 248. On the other hand, the counties of Lancashire, Yorkshire and Durham had only 1 injured in every 464 of population.

Finger Prints by Wireless

For the second time the London police have used a new system by which finger prints are sent by wireless to all parts of the world. A man detained by them is believed to be wanted by the Chicago police. His finger prints were taken and sent to the United States by wireless. In the previous case, finger prints sent to New York enabled a counterfeiter who had escaped while on bail to be identified. In the new system the various whorls, circles and loops are described by index letters and figures. At the receiving bureau the finger prints can be reconstructed in five minutes.

PARIS

(From Our Regular Correspondent)

May 2, 1928.

Controversies over the Liver Treatment of Anemia

The use of calf's liver in anemia appears to be becoming general in France, as in other countries. The method, however, is meeting with some resistance on the part of the public and some physicians. The patients quickly tire of the monotonous diet. All attempts made in France to obtain a concentrated preparation have failed thus far. Among the specialists in anemia, Dr. E. Weill remains an ardent advocate of the method. Dr. Pagniez, who was at first enthusiastic, is becoming skeptical. At the last meeting of the Société médicale des hôpitaux, vigorous opposition to the method was launched by Prof. Georges Hayem, who is now 90 years of age and who has devoted all his life to the study of the blood. He denies that the method has any value in the treatment of genuine pernicious anemia. According to his belief, the patients thus treated have not been previously subjected to a thorough blood examination, and the authors have confused the various types of anemia. Essential progressive pernicious anemia is due to the arrest of hematoblastic hematopoiesis. It is characterized by an abnormal increase in the diameter of a portion of the red corpuscles, a diminution in the number of hematoblasts and leukocytes, and the absence of retractility of the blood clot. It is resistant to all ordinary therapeutic remedies. M. Hayem has failed to find, in the observations published with regard to the liver method, sufficient evidence that, in the patients whose cases are reported, veritable pernicious anemia was definitely established.

Discussion Before the Academy of Medicine on the Value of the B C G Vaccine

While, until now, the reservations formulated against the use of the B C G antituberculosis vaccine have originated in foreign countries, a criticism has been recently launched before the Academy of Medicine. The discussion is still under way, and the conclusions have not yet been announced. However, it is evident that the criticism has had an immediate and marked effect on the mind of the public, whose distrust of vaccination is easy to awaken. The attack was made by a corresponding member of the academy—M. Lignières, who has been located, for some time, in Buenos Aires. Lignières is a veterinarian who has made an extensive study of epizootics in animals, and who attributes to *Salmonella* a very extensive pathogenic rôle; this contention has not, however, met with the approval of all the bacteriologists of the Pasteur school. Lignières brings up again the criticism that originally emanated from Germany, to the effect that the B C G vaccine, since it contains living tubercle bacilli destined to lodge and abide for a long time in the lymph centers, may establish a focus of tuberculosis in subjects who are not otherwise menaced. At any rate, if a vaccinated subject dies, as has already happened, it is impossible to say whether the vaccination has failed to accomplish its purpose or whether the vaccine gave rise to the tuberculosis. Experiments with the B C G vaccine in rabbits yielded a mortality of from 58 to 66 per cent when the vaccine was administered by mouth or inoculated into the veins or the peritoneum. When it was inoculated subcutaneously, the mortality was only 21 per cent. These results can be explained only if the vaccine is capable of transmitting tuberculosis and not if it is innocuous. Therefore, Lignières concludes, it is better not to give the B C G vaccine if tuberculous contagion is not to be feared. M. Calmette has replied that the trials carried out in France cover nearly 80,000 children vaccinated at birth. Of this number, 6,000 were born of tuberculous mothers or lived in contaminated surroundings. These children have not suffered the slightest accident. The fears of M. Lignières do not appear, therefore, to be well founded. Calmette holds that the vaccination should not be confined to children who are peculiarly liable to contract tuberculosis but should include all children, for every one is more or less exposed to the disease. Lignières replied that, among the children vaccinated, many had become tuberculous, and that one could not be sure whether the vaccine had failed to develop immunity or whether, on the contrary, it may not have unloosed the disease. He promised to bring his evidence to the next meeting of the academy. Calmette, on the other hand, stated that he had proofs that his attenuated bacillus is absolutely avirulent in the organism.

Danger in the Use of Iodized Oil

This week appears to have been devoted to the criticism of therapeutic methods. Before the Société de chirurgie, Prof. Pierre Duval raised objections to the use of iodized oil in the visceral cavities as an opaque medium in radiography. In particular, he stated that the introduction of iodized oil into the tubes, under pressure, had caused some serious accidents—some of them fatal—in France as well as in foreign countries. He contended, furthermore, that the diagnostic aid supplied to the surgeon by this method is not of sufficient value to justify the use of such a dangerous procedure.

The Centenary of Tarnier

The centenary of the birth of Tarnier was commemorated in Paris, May 8, by ceremonies that took place in the amphitheater of the obstetric clinic which he created and which still bears his name. M. Charletty, the rector of the university, M. Mourier, the general director of the Assistance publique, M. Roger, dean of the Faculté de médecine, and Professor Bar, now retired, who was one of Tarnier's best pupils, gave accounts of his activities and showed his beneficient influence on the care of children and on obstetrics in France. All the present obstetricians were, directly or indirectly, his pupils. He practically abolished puerperal infection, and invented the axis-traction forceps that bear his name.

The Death of Dr. Augustin Cabanès

Dr. Augustin Cabanès has died at the age of 68, succumbing to a mental disorder that developed late in life. Cabanès made a name for himself by his numerous publications on the diseases of eminent men of the past, the pathology of which he introduced into medical history. His books are replete with stories and ancedotes that his title of physician permitted him to write under the cover of science. He contributed to the founding of the Société médicohistorique, and through his journal, *La chronique médical,* he played a part in the evolution of the medical press.

JAPAN

(From Our Regular Correspondent)

April 28, 1928.

The First National Examination for Physicians

In May the first national examination for those who wish to obtain licenses to practice medicine in this country is to be held by the government at the Tokyo Imperial University. Six American candidates will sit for the examination.

New Dean of the Chiba Medical College

Some months ago, Dr. T. Matsumoto tendered his resignation as dean of the Chiba Medical College. The faculty has elected Prof. Dr. T. Tekemura, professor of internal medicine, as the new dean. Dr. Matsumoto, it is said, will continue his lectureship at the college.

New Members of the Diet from the Medical Profession

Following the first general election under the Manhood Suffrage Law, which was held in this country, February 20, ten of the new representatives sent to the lower house are from the medical profession.

New Regulations for Asylums for the Insane

New regulations for asylums for the insane will shortly be proclaimed in this country. According to the latest material published by the metropolitan police, in Tokyo are 3,123 insane persons, 1,875 male and 1,248 female, who are confined in the fifteen asylums, governmental or private, that are located in the capital and its suburbs.

St. Luke's International Hospital

The St. Luke's International Hospital in Tokyo has twice suffered great damage during the last few years; once from the earthquake of 1923 and again from the fire which occurred two years later. The work of the hospital has been continued in barracks. Now the funds for reconstruction amount to more than 2,000,000 yen, thanks mainly to the strenuous efforts of Dr. Teusler. The new building, therefore, is to be constructed on the former site at Tsukiji, Tokyo.

Health Insurance

The Japan Medical Association, which a year ago made a contract with the social bureau concerning the care and treatment of members of the health insurance organization, has published the number of cases cared for and treated last year:

	Number of Patients	Total Number of Days Care and Treatment
Male	706,720	7,088,553
Female	554,144	4,882,336
Total	1,260,864	11,970,889

Average Days per Month per Patient

Male	10.03
Female	8.63

March 28, the local chiefs' conference of the health insurance organization was held in Tokyo.

A Man of Letters as a Medical Student

Not a few men of medicine in this country are renowned in literature as well as in medicine. Such are Prof. Dr. M. Ota the dramatist, professor in the Tohoku Imperial University; the poet Dr. M. Saito, one of the staff of the Aoyama Asylum, and the fiction writer Prof. Dr. S. Masaki, professor in the Keio Medical College. In the list of graduates of this year of the Tokyo Medical College is found the name of Mr. K. Nakamura. He is one of the followers of Soseki Natsume, the man of letters, and has written some remarkable stories. He is also deeply versed in abnormal psychology and has been the publisher of the magazine *Abnormal Psychology* since the completion of his course in the college of literature in the Imperial University, Tokyo. He has recently been allowed to pursue his studies under Kimura in the Chiba Imperial Medical College.

Smallpox in Tokyo

Nearly 250 cases of smallpox have been reported in Kyushu since the autumn of last year, and the epidemic is still prevalent there. About thirty cases have been reported in the spa Beppu. Fukagawa, the "East End" of Tokyo, is now in panic because of the epidemic, which seems to have been brought in by a cook of the third class dining car on the line between Tokyo and Shimonoseki. The metropolitan police are now employing every means to prevent the spread of the epidemic.

Medical Exhibitions

For three days beginning April 1, an exhibition concerning medical literature and history was held in Tokyo. The exhibit included many rare medical books in Chinese or Japanese written by doctors of old and several old portraits and medical pictures. In accordance with the resolutions of the Second Conference of the League of Red Cross Societies, the Japan Red Cross Society opened two exhibitions last year. This year, for three weeks beginning May 1, the "Racial Exhibition" will be held in the Japan Red Cross Building in Tokyo. The important exhibits deal with: (1) degeneration of a race caused by infectious diseases; (2) degeneration of a race caused by alcoholic poisoning; (3) degeneration of a race caused by neurasthenia or mental disorder; (4) racial health and the development of industry, and (5) racial development and heredity.

New Medical Colleges

Two medical colleges have been established in this country this spring. The Showa Medical College, which has been built in the suburbs of Tokyo, has as dean Prof. Dr. W. Okada. The Iwate Medical Association has established the Iwate Medical College in the city of Morioka, Iwate Prefecture. In Osaka two medical colleges are under contemplation, one for women and the other for ships' surgeons.

ITALY

(From Our Regular Correspondent)

April 15, 1928.

International Conference on Tuberculosis

In September, 1928, the Unione internazionale contro la tubercolosi will hold its sixth conference in Rome. The main topics on the program are: (1) Filtrable Elements of the Virus of Tuberculosis, to be presented by A. Calmette of Paris; (2) The Diagnosis of Tuberculosis in Children, by R. Jemma of Naples, and (3) The Organization of Tuberculosis Prophylaxis in the Rural Districts, by W. Brand of London. In addition, papers on the following subjects will be presented: Carlo Forlanini and Pneumothorax in the Treatment of Pulmonary Tuberculosis, by Prof. E. Morelli of Pavia; The Surgical Treatment of Pulmonary Tuberculosis, by E. Brasser of Hamburg, and The Law Pertaining to Compulsory Insurance against Tuberculosis in Italy. After visiting the principal antituberculosis institutions of Rome and the Sanatorio Militare at Anzio, the conventionists will go to Milan, where the Honorable Benni will deliver an address on the subject: The Organization of Antituberculosis Measures in the Industries of Milan. Engineer Quintavalle will give a practical demonstration of the methods adopted for antituberculosis prophylaxis in the industries. A report of the scientific sessions will be published in the bulletin of the Unione internazionale contro la tubercolosi, together with a survey of the progress made by each nation in the crusade against tuberculosis.

The Death of Professor De Giaxa

Prof. Vincenzo De Giaxa, professor emeritus of hygiene in the University of Naples, has died. His scientific productions were concerned with various bacteriologic and hygienic subjects. He demonstrated that the tubercle bacillus, when divested of its covering of fatty and waxy substances, contains a nuclein capable of producing specific local alterations very similar to those caused by the entire bacillus. His last twenty years of study were devoted more particularly to researches on the etiology of pellagra and on the protection of oxen against barbels. Through the last mentioned researches, he discovered a method of immunization that conquered the terrible epizootic that developed in 1909 at Salerno.

The Study of Uricacidemia

A convention of Italian physicians who are interested in the problem of uricacidemia will be held in July, 1928, at the thermal springs of San Pellegrino. The main topics on the program are: The Physiopathology of Uricacidemia, to be presented by Prof. Pietro Rondoni of the University of Milan; Macroscopic and Microscopic Changes in Uricacidemia, by Prof. Alberto Pepere of the University of Milan; Uricacidemia of Childhood, by Prof. Dante Pacchioni of the University of Genoa, and The Clinical, Therapeutic and Prophylactic Aspects of Uricacidemia, by Prof. Luigi Devoto of the University of Milan.

A Meeting of Dermatologists and Syphilologists

The Società italiana di dermatologia e sifilografia—the section of Tuscany and Umbria—held its third meeting in Pisa, under the chairmanship of Prof. Lodovico Tommasi, director of the Clinica di Siena. Professor Capelli, director of the Clinica di Firenze (Florence), presented a paper on "The Examination of the Skin with Ultraviolet Rays." On the basis of the observations that he has made thus far, the speaker holds that ultraviolet rays are capable of bringing out certain changes of the skin (evidence of active and passive congestion, anomalies of pigmentary distribution, and the like) not discernible or very slightly visible in ordinary light. However, for researches on tinea, Professor Capelli does not think that ultraviolet rays can replace microscopic examination, either as a diagnostic measure or for the purpose of verifying an assumed recovery.

Professor Bertaccini, director of the Clinica di Perugia, reported the first results of his researches on the acid-base equilibrium and the alkali reserve of the blood in certain skin diseases. Employing the Van Slyke method, the speaker studied thirty-one cutaneous diseases, among which there were twenty-one cases of eczema, three of psoriasis, and seven manifestations of other cutaneous diseases, in various phases of evolution. In addition, he examined six normal persons. Intravenous injections of calcium chloride and of sodium thiosulphate caused a sensible lowering of the alkali reserve, which returned to the original value after a few hours.

Professor Tommasi, director of the Clinica di Siena, spoke of his experiments with lead treatment in inoperable skin cancers. He encountered necrosis and elimination of the exuberant mass of the tumor, with edematous, erythematous and painful reaction at the base. There was no arrest in the progress of the tumor; on the contrary, its growth seemed rather stimulated and furthered. The author is not able to say whether the results obtained with a special preparation can be assumed to hold for all preparations of lead, but it appears that lead is difficult to manage, since the therapeutic doses lie too close to the dangerous and lethal doses. There is, however, a selective action of lead on tumors, for which reason it is proper that researches in this field be undertaken.

Dr. Cortella recounted his experiments with gold preparations, by the intravenous route, in certain cases of lupus, lupus vulgaris and lupus erythematosus, in which he obtained moderate results. Nicoletti of Pisa gave the results of his researches on the alleged specificity for syphilis of certain nuclear modifications of the white corpuscles. According to Antoni of Hamburg, the white corpuscles of the blood of patients with syphilis show minute modifications of the nucleus, which are disclosed by a special staining method (the Ringold method) and which are pathognomonic. Nicoletti, however, discovered such modifications also in the blood of subjects who were certainly not syphilitic, and contends therefore that their presence is not a specific manifestation and cannot be utilized in the diagnosis of syphilis.

The Superior Council on Health

Under the chairmanship of Professor Marchiafava, senator, the Consiglio superiore di sanità, recently reorganized and enlarged, held its meeting in Rome. The account given by the general management of the public health service of the work of that administration, during the previous year, was read and approved. There followed a discussion of the regulations pertaining to professional schools and colleges for nurses, special schools of medicine, and public hygiene and social assistance connected with visiting sanitary assistants. Modifications in the measures for the suppression of illicit trade in narcotics were proposed. The council then considered the auxiliary arts of the sanitary professions, and endeavored, particularly, to define the attributes of opticians, dental technicians, orthopedists and nurses. The regulations on the hygienic supervision of milk, the hygiene of labor, and the obstetric practice of midwives were likewise discussed.

BERLIN

(From Our Regular Correspondent)

May 5, 1928.

The Wiesbaden Congress of the German Society of Internal Medicine

The Congress of the Deutsche Gesellschaft für innere Medizin was held in Wiesbaden, April 16-19. The first papers considered the influence of cancer on metabolism. Prof. O. Warburg of the Kaiser Wilhelm Institut in Berlin-Dahlem, who is well known for his researches on cancer, announced in his introduction dealing with the physiology of the cell the most important points of his technic. In cancer tissue there is respiration, as in normal cells, but there is a qualitative difference in the cleavage of the sugar to lactic acid, which amounts to 5 per cent per hour of its weight and corresponds to the performance of a muscle in a suffocated condition. If one determines in addition the oxygen exchange, one obtains the relationships of respiration and fermentation, which are equal. By the cleavage of the sugar to lactic acid under aerobic conditions, the calcium cell distinguishes itself from normal growth and qualitatively from intact body cells, except the retina. Numerous body tissues have been examined in vitro and in no case was any considerable amount of lactic acid excretion to be noted. In fact, muscle and ganglion cells need to have lactic acid brought to them. A cancer cell without fermentation is just as impossible as one without respiration. The forces of cancer growth are derived from these two sources, while normal growth is effected entirely through respiration. The combined effects of respiration and fermentation do not explain the disordered growth of the cancer cells any more than respiration explains the nature of the normal cell, but there is probably some connection. The cause of the fermentation is not an independent reaction but a resultant from respiration and anaerobic fermentation, which together constitute glycolysis. The respiration of oxygen in the cancer is unable to stay the fermentation, it being, for the most part, too slight. It is possible by artificial means to retard respiration or to check the effect of respiration on fermentation; for example, with hydrocyanic acid or its ethyl ester. The action is the same in the suffocation and destruction of body cells, in which respiration disappears sooner than fermentation. The transitional metabolism leading up to glycolysis is not specific but concerns also the living cell capable of division. It might be objected that we are concerned with the metabolism of cells that are about to undergo necrosis. But it may be stated that in small tumors without necrosis the result is the same as in tumors of long standing, and that combats such objection. No hope for a curative method can be based on these researches as yet, since, while it is true that the respiration ferment is known, the ferment causing the fermentation, and the action on the respiration ferment, are unknown.

The paper of Professor Grafe of Würzburg treated the subject, "Clinical Observations on the Influence of Cancer on Metabolism." Cachexia in the advanced stage of the disease leads to the assumption that the tumor tissues exert a general influence on the organism, which finds its expression in an altered metabolism of the body. Undernutrition alone is not the cause of the cachexia. If one tests the basal metabolism, it will be found to be distinctly increased in more than 50 per cent of the patients with malignant tumors. From the diagnostic and therapeutic standpoint, the determination of the basal metabolism is often of importance in deciding the question of operability. In a large number of cases the combustion processes in the organism are not carried to completion, so that, in the urine, substances appear that in normal subjects are either entirely absent or are present in much smaller quantities. As in fever, the first thing that is determined in cancer is the protein metabolism, in connection with which F. Müller and G. Klem-

perer endeavored to discover the cause of the patient's loss of strength. But the protein metabolism was found to be normal, especially if the increased food needs of the patients are taken into account. Only very rarely, in advanced, broken-down cancers of the gastro-intestinal tract, could increases of the protein minimum be established. The question whether non-disintegrated tumors ever act thus is undecided. The cancer tissue contains protein-splitting ferments. But that is true also of the fetal tissues. It is not certain, either, that such ferments can attack the living protein in the body. One can occasionally draw diagnostic conclusions from the appearance of peptidases in cancer patients. In cancers of the gastro-intestinal tract, increases in the blood sugar may sometimes be found. An increase of lactic acid in the urine, however, is probably caused by impairment of the liver or coincident anemia. As regards fat and mineral metabolism, one finds changes similar to those noted in many other diseases. The loss of strength noted in cancer patients is by no means fully explained by the researches on metabolism. The nature of the substances which are excreted by the cancer tissue or which are thrown into the organism when the cancer disintegrates is still entirely unknown. We do not know, either, whether there is a specific cancer poison. There are thus still a great many unsolved (if solvable) questions.

Professor Sachs of Heidelberg presented a paper on "Immunobiologic Observations on Cancer Problems." The studies on immunity conditions and the serodiagnostic endeavors have not led as yet to any practical results. Aside from the natural immunity determined by the animal species, the race and the individual, there is, beyond all doubt, an acquired resistance. An acquired immunity can be developed artificially in animals in various ways. Aside from inoculation with living cells and with substances from broken-down tumors, an acquired immunity can be conferred through chemical, thermic and actinic agents, in which, similar to irritation therapy, nonspecific influences produce the effect. The manifold irritative incidents of life may exert, therefore, not only a prophylactic but also a pathogenic influence on tumor formation. Also, in connection with the endeavors to establish a serodiagnosis of neoplastic diseases the nonspecific blood changes are in the foreground. Increased colloidability explains a number of serologic reactions that the tumor patient presents in common with those affected with other diseases. As far as early diagnosis is concerned, the attempts to discover serodiagnostic methods have not been very satisfactory.

Professor Fischer-Wasels of Frankfort-on-the-Main explained, during the period open for discussion (as previously, in the *Münchener medizinische Wochenschrift*), his gas treatment of malignant tumors, by means of which he has been able to reduce considerably the transplantability of animal tumors. Also iron-sugar (*eisenzucker*) and a sugar adjuvant were found to exert a retarding action through increase of the oxidation, especially in combination with the inspiration of gas. The sugar was used as the vehicle for carrying other substances to the tumor. It is combined with insulin, which, on the ingestion of sugar, increases the oxygen exchange (*verbrauch*). He warned against basing undue hopes on the method in dealing with man.

The second day's session dealt with various fields of internal medicine. The address of Professor Krehl of Heidelberg deserves mention. He recommended for the treatment of lobar pneumonia the determination of the pneumococcus type and the application of typed pneumococcus serum. When injected early enough and in large doses, surprising results were observed. By the preliminary injection of small doses, hypersensitive patients can be eliminated.

In the discussion, Stähelin of Basel advocated the use of quinine urethane, while von Criegern recommended the employment of pneumococcus serum, though he had seen good results also from the acetyl-para-aminophenyl-stibiate of soda, in chronic and gangrenous pneumonia. Zinn of Berlin had noted, for the most part, in that city, type II. That explains why the serum is there not so promising. Schottmüller of Hamburg seeks to protect against anaphylaxis in connection with scarlet fever serum, through intravenous injections of calcium chloride urea. Allard of Hamburg had noted the relatively best effects from the hydrochloride of ethylhydrocuprein and H. Schlesinger of Vienna, from plasmochin. Zuelzer of Berlin recommended from 1 to 2 Gm. of quinine, during the first days, together with treatment for the heart. Rostoski of Dresden had seen good results also from normal horse serum. Cahn-Bronner of Frankfort advocated 0.5 Gm. of quinine daily, administered under another name, whereby the mortality is lowered. Nöggerath of Freiburg had seen, in influenzal pneumonia in children, good results from the use of convalescents' serum and recommended fresh-air treatment for such cases. Krehl stated that, in Heidelberg, type I is most frequent.

Professor Assmann of Leipzig discussed the importance of infraclavicular foci for the development and treatment of pulmonary tuberculosis. The extent of such foci is often best determined by means of transverse roentgenograms.

Nägeli of Zurich had observed cases that, owing to their acute beginning, could easily be taken for pneumonia. Romberg of Munich had seen in early infiltrations (which are not necessarily infraclavicular) sometimes a transition to contraction or shrinking and sometimes processes progressing downward. Only by means of radiologic diagnosis is prompt recognition possible. All irritative treatment is to be avoided. A moderate climate at a moderate altitude is to be recommended. Liebermeister of Düren advocates the stereoscopic roentgenogram. Higher up, the processes have a dorsal and, farther down, a ventral location.

In connection with the asthma problem, Kämmerer of Munich directed attention to the etiologic rôle of green producing streptococci. The therapeutic results with streptococcus autovaccine are often satisfactory. Mixed vaccines are an aid in asthma cases that are associated with infections. Berger of Innsbruck found in a large number of asthma patients a cutaneous idiosyncrasy to several substances that was rare in healthy subjects. Exposure, as researches on millers and bakers have shown, is an important factor in the development of allergies. Hansen of Heidelberg demands for the identification of a specific allergen, in addition to the positive skin reaction and the demonstration of the allergen in the anamnesis, absence of symptoms after removal of the allergen, the precipitation of an attack after contact with the allergen, and passive transmissibility. This applies to mold fungus asthma. Also animal hairs were found to be frequently contaminated with mold fungus. Müller of Rostock recommended roentgenotherapy in the treatment of bronchial asthma, in the form of irradiation of the spleen and the hilum of the lung, and described the changes observed in the blood picture.

Knud Faber of Copenhagen discovered, by a method of recording the gastric motility, that in so-called ulcer pains there is no pain without contraction of the stomach. During the rest period after meals, there were no pains. Not only the clinical picture but also the histologic examination showed that gastritis causes hyperacidity and late pain. In gastritis, these pains are often caused by the waves of contraction.

Wilder of Rochester observed tumors of Langerhans' islands, together with overproduction of insulin caused by the tumor metastases. Continuous ingestion of sugar prevented, for some time, the hypoglycemic convulsive attacks. Insulin in large quantities was isolated from the liver metastases. Minkowski emphasized the importance of this observation. In cancers of the pancreas affecting the whole organ, the cancer is able to assume the production of insulin, so that glycosuria does not develop.

(To be continued)

Marriages

HANSFORD H. MILBEE, Marshfield, Wis., to Mrs. Maude Hubbard Cross of Washington, D. C., at Chicago, January 18.

JERALD SAMUEL BACKSTRAND, Portland, Ore., to Miss Maxine Gwendolyn Elliott of Danville, Ill., May 12.

CHARLES GLENN POOLE, Winston-Salem, N. C., to Miss Audrey Allen Brenegar of Mocksville, April 18.

JOSEPH S. LEIBO to Miss Vera A. Korman, both of New York, February 19.

BERNARD PORTIS to Miss Helen Abt, both of Chicago, May 26.

Deaths

Arthur Pendleton Herring ⊕ Baltimore; Baltimore Medical College, 1896; since 1923 commissioner of mental hygiene of Maryland; member of the American Psychiatric Association; prosector and associate professor of anatomy and physiology of the nervous system and associate in nervous and mental diseases at his alma mater, 1896-1906; associate professor of physiology, neuropathology, neurology and psychiatry, College of Physicians and Surgeons, Baltimore, 1906-1912; formerly assistant in neurology, Johns Hopkins Hospital, neurologist in chief, St. Agnes' Hospital, visiting neurologist and psychiatrist to the Mount Hope Retreat, visiting neurologist and psychiatrist, department of the insane, Baltimore City Hospitals; consulting psychiatrist, U. S. Marine Hospital number 1, 1923-1928; executive secretary of the State Lunacy Commission of Maryland, 1908-1922; served during the World War; for many years correspondent for THE JOURNAL; aged 53; died, May 29, at the Union Memorial Hospital, of carcinoma.

William Le Roy Dunn ⊕ Asheville, N. C.; University of Michigan Medical School, Ann Arbor, 1891; president of the American Climatological and Clinical Association; past president and secretary of the Buncombe County Medical Society; member of the advisory council of the U. S. Veterans' Bureau; veteran of the World War; formerly on the staff of the Mission Hospital; aged 57; died, May 24.

William Grant Stewart, Montreal, Que., Canada; McGill University Faculty of Medicine, Montreal, 1888; at one time professor of physical diagnosis and lecturer in medicine, University of Bishop College Faculty of Medicine; formerly on the staffs of the Western, Montreal Maternity and the Alexandra hospitals; aged 67; died, April 21.

Charles H. Jennings, Merchantville, N. J.; Jefferson Medical College of Philadelphia, 1889; member of the Medical Society of New Jersey; past president of the Camden County Medical Society; aged 70; formerly on the staff of the Cooper Hospital, Camden, where he died, May 13, of myocarditis and auricular fibrillation.

Joseph Alfred Andrews ⊕ Santa Barbara, Calif.; Medical Department of Columbia College, New York, 1876; member of the Medical Society of the State of New York; the American Ophthalmological Society, and the American Otological Society; aged 71; died, May 6, of heart disease, following influenza.

David L. Gifford ⊕ North East, Md.; University of Pennsylvania School of Medicine, Philadelphia, 1877; past president of the Cecil County Medical Society; aged 77; died, May 21, at the Richards' Private Hospital, Port Deposit, of carcinoma of the cardiac end of the stomach and diabetes mellitus.

Charles Sidney Stoddard, Santa Barbara, Calif.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1874; Bellevue Hospital Medical College, New York, 1883; member of the California Medical Association; Civil War veteran; aged 81; died, May 18, of carcinoma of the prostate.

Ray Ernest Smith ⊕ Rutland, Vt.; Albany (N. Y.) Medical College, 1908; past president of the Rutland County Medical Society; veteran of the World War; aged 45; formerly on the staff of the Rutland Hospital, where he died, April 23, as the result of an operation for intestinal perforation.

Philip Hamilton Fitzgerald, Blakely, Ga.; Atlanta College of Physicians and Surgeons, 1910; member of the Medical Association of Georgia; past president of the Tri County Medical Society; served during the World War; aged 47; died suddenly, April 30.

Elmer E. Larkin ⊕ Plattsburg, N. Y.; Albany Medical College, 1885; chief physician at the Clinton Prison, General and Tuberculosis Hospital, Dannemora; on the staff of the Champlain Valley Hospital; aged 65; died suddenly, May 19, of angina pectoris.

William C. Sherman, Brownsville, Ind.; Miami Medical College, Cincinnati, 1885; aged 66; died, May 9, at the Fayette Memorial Hospital, Connersville, as the result of injuries received when the automobile in which he was driving was struck by a train.

Julius Eugene Farber, Cordell, Okla.; Atlanta (Ga.) Medical College, 1887; member of the Oklahoma State Medical Association; formerly member of Oklahoma State Board of Medical Examiners; aged 64; died suddenly in May, at El Reno, of heart disease.

Gustavus Beall Hedges, Martinsburg, W. Va.; University of Pennsylvania School of Medicine, Philadelphia, 1877; on the staff of the City Hospital; aged 71; died suddenly, April 28, at the home of his brother-in-law in Baltimore, of myocarditis.

Andrew J. Dick ⊕ Watertown, N. Y.; College of Physicians and Surgeons, Baltimore, 1893; University of Buffalo School of Medicine, 1895; on the staff of the Mercy Hospital; aged 64; was found dead in bed, May 21, of heart disease.

Daniel John McFaul, Pendleton, Ore.; Detroit College of Medicine and Surgery, 1888; formerly on the staff of St. Anthony's Hospital; aged 63; died, April 20, at Glendale, Calif., of carcinoma of the esophagus.

Mary Hannah Wolfenden Battershall, Attleboro, Mass.; Woman's Medical College of Pennsylvania, Philadelphia, 1879; member of the Massachusetts Medical Society; aged 73; died, May 4, of cerebral embolism.

William Ben Watts, Cleveland; University of Michigan Medical School, Ann Arbor, 1889; veteran of the Spanish-American War; aged 65; died, May 15, of hypostatic pneumonia and cerebral hemorrhage.

Oliver Shepard Barnum, Alhambra, Calif.; New York Homeopathic Medical College and Hospital, 1893; aged 61; died, March 22, at the Pottenger Sanatorium, Monrovia, of pulmonary tuberculosis.

Archie Byrd, Wartburg, Tenn.; University of Tennessee College of Medicine, 1907; member of the Tennessee State Medical Association; aged 47; died suddenly, April 30, of cerebral hemorrhage.

George Jay Mack, Waterloo, Iowa; Bellevue Hospital Medical College, New York, 1872; formerly member of the city council and county coroner; aged 77; died, May 10, of diabetes mellitus.

Lonzo Harrison Redman, Chevrolet, Ky.; University of Louisville School of Medicine, 1898; member of the Kentucky State Medical Association; aged 53; died, May 10, of cerebral hemorrhage.

John S. Kline, Ludington, Mich.; University of Tennessee College of Medicine, Memphis, 1886; aged 75; died, May 7, at the Paulina Stearns Hospital, of influenza and chronic nephritis.

Clarence H. Vaught, St. Petersburg, Fla.; Louisville (Ky.) Medical College, 1891; formerly a practitioner in Kentucky; aged 62; died, May 13, at the Mound Park Hospital, of chronic nephritis.

George C. Hunt, Chicago; Rush Medical College, Chicago, 1885; for eighteen years chief surgeon for the police department; aged 60; died, April 30, at Miami, Fla., of pneumonia.

Lucian Seneca Lambert, Galesburg, Ill.; Miami Medical College, Cincinnati, 1869; Civil War veteran; aged 86; died, April 27, at St. Mary's Hospital, of influenza and senility.

Charles Duerson, Mount Sterling, Ky.; Jefferson Medical College of Philadelphia, 1865; Confederate veteran; aged 89; died, May 10, of chronic myocarditis and renal insufficiency.

Edgar Charles Van Syckle ⊕ Detroit; Detroit College of Medicine and Surgery, 1906; aged 57; died, May 12, in the Providence Hospital, of influenza and bronchopneumonia.

Silas Willis Covell, Wilkinsburg, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1895; aged 59; died, April 26, of chronic nephritis and cerebral hemorrhage.

George E. Martin ⊕ Anna, Ohio; Miami Medical College, Cincinnati, 1895; aged 64; was instantly killed, May 20, when the automobile in which he was driving overturned.

William Gardner Smith, Lodgepole, S. D.; Medical Department of Columbia College, New York, 1885; aged 74; died, May 5, of heart disease, following influenza.

Zerubabel Albert Raskin, New York; University and Bellevue Hospital Medical College, New York, 1924; aged 26; died, May 14, of an acute respiratory infection.

Milton A. Wilson, Westfield, N. Y.; New York Homeopathic Medical College, 1873; aged 76; died, May 8, at St. Vincent's Hospital, Erie, Pa., of uremia following hypertrophy of the prostate.

Thomas Warner Davidson, Springfield, Ill.; Keokuk (Iowa) Medical College, 1892; aged 63; died, May 14, in St. John's Hospital, of carcinoma of the liver.

Elmer Ellsworth Kepner, Cleveland; Medical Department of Western Reserve University, Cleveland, 1909; aged 44; died, February 29, of pulmonary tuberculosis.

Sophia L. Kern, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1900; aged 72; died, April 10, at the home of her daughter in Kansas City, Mo.

Thomas Fraser Thomas, Gainesville, Fla.; College of Physicians and Surgeons, Baltimore, 1882; aged 69; died suddenly, April 29, of angina pectoris.

William Roy Butler, Boone, N. C.; University of the South Medical Department, Sewanee, Tenn., 1905; aged 71; died, April 30, of carcinoma of the stomach.

Euphrates G. Hutson, Benton, Ill.; Missouri Medical College, St. Louis, 1878; also a druggist; aged 78; died, May 1, at Los Angeles, of chronic nephritis.

William Wesley Wineinger ✠ Dighton, Kan.; University of Kansas School of Medicine, Kansas City, 1924; was shot and killed by bandits, May 24.

Jean Paul Dixon, Moores, Pa.; Johns Hopkins University School of Medicine, Baltimore, 1925; aged 29; was killed, May 15, by a trolley car.

Charles Lock Kennedy, New Richmond, Ohio; Medical College of Ohio, Cincinnati, 1880; aged 71; died, May 4, of cerebral hemorrhage.

Richard T. Stone, West Columbia, W. Va.; University of Maryland School of Medicine, Baltimore, 1892; aged 59; died in May, of paralysis.

Clayton C. Barton, Gallipolis, Ohio; Kentucky School of Medicine, Louisville, 1877; aged 78; died suddenly, May 2, of chronic myocarditis.

Clarence K. Haggard, Moody, Texas; University of Louisville (Ky.) School of Medicine, 1881; died, February 29, of cerebral anemia.

Amos McKillips Pierce ✠ West Elizabeth, Pa.; Jefferson Medical College of Philadelphia, 1876; aged 77; died, May 8, of pernicious anemia.

Charles M. Duncan, Denver; College of Physicians and Surgeons, St. Joseph, Mo.; 1881; aged 76; died, May 6, of lobar pneumonia.

Thomas Winston, Lawrence, Kan.; Rush Medical College, Chicago, 1858; Civil War veteran; aged 98; died, May 14, of arteriosclerosis.

Arthur H. Paget, Sturgeon Falls, Ont., Canada; Victoria University Medical Department, Toronto, 1858; aged 94; died in February.

Robert C. Light, Indianapolis (licensed, Indiana, 1897); aged 71; died, May 18, of bronchopneumonia and chronic myocarditis.

Robinson Richard Whiteside, Moline, Ill.; Northwestern University Medical School, Chicago, 1903; aged 65; died, May 23.

Margaret K. Thomas, Cincinnati; Eclectic Medical College, Cincinnati, 1919; aged 61; died, April 10, of carcinoma of the stomach.

Robert S. Bonner, Fort Towson, Okla. (licensed, Oklahoma, under the Act of 1908); aged 70; died, May 12, of heart disease.

Olon Carl Thomas ✠ Spring Hill, Kan.; Kansas City (Mo.) Medical College, 1894; aged 54; died suddenly, April 17.

Walter Hamilton, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1888; aged 60; died, April 17.

James Lee, New York; Bellevue Hospital Medical College, New York, 1886; aged 75; died, May 14, of pneumonia.

John R. Trovinger, Arlington, Ohio; Columbus Medical College, 1889; aged 65; died, May 17, of tuberculosis.

Allan Robert Law, Port Dover, Ont., Canada; Rush Medical College, Chicago, 1870; aged 81; died in April.

Hardin Lee Washer, Hollister, Okla.; Louisville (Ky..) Medical College, 1896; aged 64; died, April 26.

Wallace E. Deitz, Berne, N. Y.; Albany Medical College, 1882; aged 71; died, April 26, at Amityville.

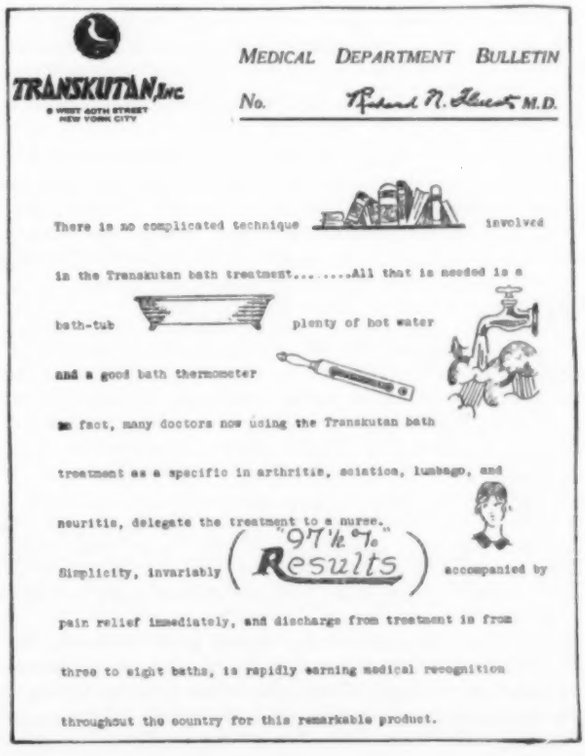
Bureau of Investigation

TRANSKUTAN

A Nostrum Modification of Turpentine Stupes

"Transkutan" is marketed in the United States and Canada by Transkutan, Inc., 8 West Fortieth Street, New York City. This company is said to be the exclusive distributor in the United States and Canada of "Transkutan" and "Transkutherman," preparations of the Chemische Pharmazeutische Laboratorium Fur Transkutan Praparate, Berlin, Germany. One P. L. Frailey of New York City seems to be circularizing the medical profession in behalf of Transkutan, while the "Medical Counsel" for the concern is Dr. Richard N. Fluent, late of Cleveland, Ohio, and now of 8 West Fortieth Street, New York City.

Transkutan comes in a dark blue bottle, holding about 4½ fluid ounces. The label is a gaudy affair in German, with white letters on a background of vermilion and dark blue.


TRANSKUTAN, Inc.
8 WEST 40TH STREET
NEW YORK CITY
MEDICAL DEPARTMENT BULLETIN
No.
Richard N. Fluent, M.D.
There is no complicated technique involved
in the Transkutan bath treatment.....All that is needed is a
bath-tub
plenty of hot water
and a good bath thermometer
In fact, many doctors now using the Transkutan bath
treatment as a specific in arthritis, sciatica, lumbago, and
neuritis, delegate the treatment to a nurse.
Simplicity, invariably
"97⅛%"
Results
accompanied by
pain relief immediately, and discharge from treatment in from
three to eight baths, is rapidly earning medical recognition
throughout the country for this remarkable product.

The method of introducing this German product to the American market is ingenious. The jobbers salesmen of Transkutan call on a druggist and impress on him that, if his application is accepted, his store will be the only one in his locality that can supply Transkutan. The druggist is told that it is necessary that he furnish the names of from five to ten physicians for whom he regularly fills prescriptions and who, he thinks, would endorse his store. When Transkutan, Inc., receives the druggist's application with the names of these physicians, the company directs letters to the doctors in question, asking for their endorsement of the druggist. If a sufficient number of favorable replies are received, the druggist is granted the exclusive local license to deal in Transkutan. While the salesman is in the city, he is also expected to get from the druggist a list of other physicians who can be generally circularized on Transkutan.

The next move is to carry an advertisement in a local newspaper addressed to "Rheumatic Sufferers" and dealing with the marvelous results to be obtained from the "Transkutan Scientific Bath Treatment." The advertisement emphasizes that the Transkutan bath treatment should be taken under the guidance of a physician, and that the product will, therefore, be dispensed by the druggist named in the advertisement only on

a physician's prescription. The public is also told in the same advertisement that a booklet on Transkutan, that has been "prepared for physicians, but intensely interesting to all rheumatic sufferers, can be secured free of all cost" from the local drug store.

According to this booklet, Transkutan has produced remarkable results in the treatment of influenza, rheumatoid arthritis, neuritis, sciatica, "catarrh," eczema, gout, lumbago, psoriasis, etc. In letters sent out by P. L. Frailey, one learns that, in addition to the conditions just listed, Transkutan baths are also recommended for "inflammatory exudates of the female sex organs and various other afflictions."

What is Transkutan? As might be expected, there is no frank statement on this point. The advertising matter described it vaguely. In one place it is "chiefly a brine-concentration of natural mineral springs and extracts of plants abounding in terpenes"; in another it is described as "a compound of natural mineral salts from the Black Forest of Germany, with concentrated aromatic oils in an electrolytic solution." Dr. Richard N. Fluent, in reply to a specific question put to him about the composition of Transkutan, admits that the stuff is secret in composition. Thus:

> "I am pleased to say that Transkutan is composed of salts from various springs of the Black Forest of Germany which have been obtained by a special evaporating process with concentrated aromatic oils of Camphor, Menthol and Turpentine. The exact formula as to the salts is the secret of the inventor, Professor Hammel of Berlin."

The method of using Transkutan is about as theatrical as its method of exploitation. The patient gets into a hot bath, having previously applied petrolatum, or some similar grease, to the more sensitive parts of the body, such as the throat, the genitals, the axillae and the groins. The water is kept as hot as the patient can bear and the patient is submerged up to the chin, for five minutes. Then the entire contents of a $5 bottle of Transkutan (4½ ounces) are poured evenly over the entire surface of the water. As will be seen in the chemists' report following later, Transkutan is essentially a mixture of turpentine and a concentrated solution of calcium and magnesium chlorides. Naturally, when this mixture is poured over the water, a thin film of turpentine covers the surface of the bath. The patient remains in the bath for six minutes after the addition of the turpentine mixture, and is then taken slowly from the bath, so that the film of turpentine floating on the surface will cover the body. He is then wrapped in a blanket without drying or rubbing, placed in a warm bed, and allowed to sweat for two hours. Then he is dried and rubbed down and allowed to sleep for from eight to ten hours.

A bottle of Transkutan was turned over to the A. M. A. Chemical Laboratory, with the request that it be examined. The Laboratory report follows. It should be noted at this point that there are two strengths of Transkutan: What is called "Dose I" and "Dose II." The stronger (Dose II) was the specimen examined:

LABORATORY REPORT

"One original bottle of 'Transkutan Dose II' (Transkutan, Inc., 8 West 40th St., New York City, and 1200 W. 9th St., Cleveland, Ohio), price $5, was submitted to the A. M. A. Chemical Laboratory for examination.

"Accompanying the bottle was a detailed list of 'Directions for Doctor.' The label on the bottle describes it as 'Wirks. Bestandteile: Pflanz, Extr. Alk. Min.' [Active Constituents: Plant Extractives, Alkali Minerals] and 'Vor Gebrauch Kraftig Schutteln' [Shake thoroughly before use].

"The bottle contained approximately 130 cc. (4⅖ fl. oz.) of a liquid which separated in two portions on standing. It had a pronounced odor of turpentine with a slight odor of menthol and camphor. The lighter layer (turpentine, etc.) occupied 60 cc.; the lower concentrated solution of mineral salts) occupied 70 cc.

"The aqueous layer contained approximately 35 grams of dissolved material. Qualitative tests indicated the presence of iron, aluminum, barium, calcium, magnesium, potassium, chlorides and bromides.. Calcium and magnesium predominated; of the anions, chlorides predominated. From qualitative examination, Transkutan Dose II appears to be a concentrated solution of calcium and magnesium chlorides, with small amounts of iron, aluminum, barium and potassium chlorides and bromides in contact with a volatile material, essentially turpentine."

It is quite obvious from what has been written that the so-called Transkutan bath treatment is, for all intents and purposes, nothing but a theatrical variant of a turpentine stupe. That a hot tub followed with a turpentine stupe will give considerable relief to symptoms in certain forms of arthritis is evident; that it will have any curative effects is not so evident. Except for the psychic stimulation that the patient may get from having to pay $5 for a nostrum of secret composition and an additional fee to the physician who is supposed to superintend the bath, it is apparent that just as good results might be obtained by taking a hot tub to which five cents' worth of turpentine has been added and the sweating treatment followed, as given in the directions for the use of Transkutan.

Any physician who prescribes Transkutan is humbugging his patient and bringing scientific medicine into disrepute.

Correspondence

"THE PASSING OF THE PESSARY"

To the Editor:—At the last meeting of the American Gynecological Association, Washington, D. C., April, 1928, a committee was appointed to prepare a discussion of an editorial appearing in THE JOURNAL, April 14.

In this editorial the writer seems to condemn the pessary unconditionally. The American Gynecological Society feels that this attitude is not justified and can do untold harm.

The writer concludes that its use has been almost completely supplanted by modern surgery. He says, "Few of the newer generation of medical men have ever used a pessary; many of the older generation have discarded it entirely. Apparently some still cling to it. . . . The day of the pessary seems to be passing." The impression which the article evidently intends to convey is that the pessary is an antiquated and dangerous implement, and one to be avoided by the up-to-date practitioner.

In the opinion of this committee, the pessary still plays a most useful, though restricted, rôle. By the use of the pessary we do not mean the possession of two or three misshapen rings by a given practitioner which he tries, quite without previous training or knowledge, to use in an haphazard way. On the contrary, quite a large and well assorted armamentarium is necessary if individual cases are to be properly treated.

It is true enough that the indications for pessaries have been greatly lessened by improved surgical technic. But if it is true that "the newer generation of medical men" never use pessaries, it is necessary to state that they are neglecting a means of relieving suffering that not only is of inestimable value today but is probably destined to remain so for all time. One might as logically say that crutches or other mechanical methods of support "are passing" simply because modern surgery makes them less frequently necessary than they were in former days.

Doubtless every competent gynecologist, whether of the newer or the older generation, would subscribe to the following statement of the present-day use of pessaries.

In the treatment of symptom-giving prolapse and uterine malposition in women who are good surgical risks, proper operative measures are superior to and have for the most part supplanted the use of pessaries. But even in this class of patients there are occasions when the application of a pessary is the procedure of choice. Examples of this are the treatment of prolapse or retroversion in the early months of pregnancy, the temporary support of a subinvoluted uterus following childbirth, the treatment of certain malpositions of the uterus at the approach of the menopause, and the tiding-over of numerous other pelvic conditions for which a surgical operation may be undesirable.

The pessary has its greatest value in the treatment of prolapse in elderly women who, on account of their age or of some constitutional disease, are not favorable subjects for

surgery. Many of these patients may avoid the risk of an operation and enjoy years of comfort from the use of properly applied pessaries.

Intra-uterine stem pessaries for the relief of sterility and dysmenorrhea are for the most part undesirable.

The fitting of pessaries requires skill and ingenuity, the absence of which may result in injury to the patient. But this is still more true in the performance of surgical operations.

ROBERT T. FRANK, M.D., New York.
WILLIAM P. GRAVES, M.D., Boston.
WILLIAM R. NICHOLSON, M.D., Philadelphia.

A RURAL COMMUNITY SOLVES ITS MEDICAL PROBLEM

To the Editor:—This little story may be of interest to you, especially now that there is a real shortage of physicians in the rural communities. A small town in an adjoining county has been without a physician for the past two years. The community tried to induce a physician to locate there without success. Finally, the banker, the merchants, the minister, and a few others organized themselves as a committee to procure a physician. The bank owned a small residence with an adjoining office for a physician, and they offered to furnish this to a reputable physician, and allow him to pay for it on a monthly payment plan.

The committee called on me recently for assistance, and I at once recommended that a classified advertisement be sent to THE JOURNAL telling what they had to offer. The advertisement appeared in two issues. As a result, thirty-nine replies were received. I then advised the committee of the services rendered by the biographic department of the American Medical Association. With the assistance of the American Medical Directory, and the biographic department, we had no trouble in recommending a man who is now moving to their community. This plan may be of some value to other communities which have been unable to secure a physician. Among the thirty-nine applicants several were from Canada.

HAROLD M. CAMP, M.D., Monmouth, Ill.
Secretary, Illinois State Medical Society.

ORTHO-IODOXYBENZOIC ACID IN INFECTIOUS ARTHRITIS

To the Editor:—The recent paper of Stein and Taube on ortho-iodoxybenzoic acid in the treatment of infectious arthritis (THE JOURNAL, May 19, p. 1608) is in such striking disagreement with the results reported by Young and Youmans, and at least ten other observers, including myself, that a few words of comment seem desirable. This drug has been accepted by the Council on Pharmacy and Chemistry on the basis, in part, of these favorable reports, and it is therefore important that the discrepancy should be explained if possible.

This unfavorable report is not without value for it indicates the futility of repeated use of the drug in patients who are unsuitable subjects for its action, and in whom it might be employed because of the many favorable reports on its action which may be found in the literature. I have a paper in process of publication reporting on sixty-five additional patients treated with Amiodoxyl Benzoate-Abbott, twenty-nine of whom did not obtain any relief whatever, twelve only partial improvement, and twenty-four marked improvement. This is in distinct contrast to my first series of thirty-three patients. For the past year at the University Hospital less than 10 per cent of the patients under my care have been benefited by Amiodoxyl Benzoate-Abbott.

Very early in my experience with the drug I became convinced that it did not produce any effect not known to pharmacology, and that its action in fact was entirely similar to that of the salicylates, with the quantitative difference that it was far more effective and pronounced than any of the salicylates, even when used in large therapeutic doses. The variability with which salicylates act in a beneficial way in joint diseases is well known.

A careful study of the patients who did not receive relief from intravenous injections of Amiodoxyl Benzoate-Abbott brought out the following observations, which were distinctly absent in those patients who did receive relief: 1. Practically every one of these patients was constipated, complained of flatulence, and was troubled with indigestion; a few complained of frequent attacks of mild diarrhea following no apparent indiscretion. 2. Several patients obtained relief from the drug when it caused diarrhea, but were definitely worse after its administration when subsequent doses did not cause diarrhea; the same patients previously obtained relief from joint symptoms when they took a drastic cathartic. 3. One patient who did not obtain any relief from repeated intravenous administrations was made definitely worse when rectal administration was employed, and in addition developed a severe urticaria shortly following the last rectal injection. Later this patient was found to be highly sensitive cutaneously to a Berkefeld filtrate of a suspension of her stool. Not infrequently the drug has seemed to be the indirect cause of urticaria in those patients who were not benefited, and the urticaria was apparently more likely to develop if the drug was administered by rectum or by mouth. Moreover, those patients who did not evidence any improvement from intravenous administration were apt apt to have their symptoms exacerbated by rectal administration. 4. The patients in this group have been distinctly benefited following measures designed to correct constipation and indigestion and to change the intestinal flora.

Those patients presenting themselves with symptoms and signs of true infectious arthritis, with definite focal infection from the teeth, tonsils, nose or sinuses, and without evidence by history or physical examination of an impaired gastro-intestinal tract, have uniformly shown marked benefit from the administration of this drug.

I believe that the nature of the clinical material will determine in a large measure the results that are obtained with this drug. At the Boston City Hospital, where I first studied its action, the patients presenting themselves with joint disease are usually in the first attack of true inflammatory joint disease. Except in the few seen who had symptoms and signs of impairment of the gastro-intestinal tract, the results from intravenous administration of the drug were so immediate as to be little short of miraculous. Later a group of outpatients with chronic arthritis were seen and treated and the results were much less striking. Of the entire group of patients whom I saw in Boston, very few presented the symptoms and signs of atrophic arthritis. Here at the University Hospital a high proportion of the patients with arthritis are of the atrophic type. I have never seen any direct benefit follow the repeated administration of the drug to patients with atrophic arthritis which could not be explained entirely on the basis of the natural tendency of the disease to show remissions and relapses. These patients are so debilitated by the nature of their disease that I consider it unwise to give repeated injections with the hope that eventually the drug may have some beneficial effect.

If suitable patients are chosen for this specific therapy it will be found that the use of the drug is of distinct advantage in conjunction with other forms of treatment in the rapid rehabilitation of the arthritic patient. It should not be used with the hope that it is going to sterilize foci of infection, break up adhesions, and develop muscles. It will produce favorable results in patients who have their only focal infection in tonsils, teeth, nose or sinuses. It does not seem to produce beneficial results in patients who have atrophic arthritis, and in

those who have gastro-intestinal signs and symptoms. On this basis I am able to choose the patients who will be benefited with a high degree of precision. When benefit is obtained it seems to come almost immediately, and I make it a practice to discontinue the use of the drug when distinct improvement is not obtained after two doses.

Finally, it should be emphasized that the administration of the drug is not without danger. Manace has reported a death following its use, and advises caution in the amount of the first and succeeding doses. In this I concur, and can add that I have seen one patient unconscious and in a dangerous physical state following the administration of as small a dose as 0.3 Gm. This patient had atrophic arthritis and was hypersensitive to salicylates. Another patient who was hypersensitive to salicylates had a very serious reaction following the administration of 0.5 Gm. of the drug.

If used with discretion, the ammonium salt of ortho-iodoxybenzoic acid should attain a permanent place in the list of measures that are of value in the treatment of arthritis; if not used with discretion, the number of unfavorable reports will probably increase.

MILLARD SMITH, M.D.,
University Hospital,
Ann Arbor, Mich.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PATHOLOGIC CHANGES PRODUCED BY CHROMIC ACID

To the Editor:—Will you kindly furnish me references in regard to the pathologic changes produced by chromic acid and its compounds, especially as produced in the industries?

C. W. W. ELKIN, M.D., Pittsburgh.

ANSWER.—Information of the character desired may be found in the scientific publications now cited:

Chromate Poisoning: I. Skin Lesions; II. Eye Changes; III. Pathologic Anatomy; IV. Clinical Aspects of Chromate Poisoning, *Berl. klin. Wchnschr.* **56:** 363, number 16, 1919.
Hamilton, Alice: Industrial Poisons in the United States, New York, Macmillan Company, 1925, p. 320.
Legge, T. M., in Oliver's Dangerous Trades, London, 1902, p. 447.
Mitchell, D.: Bichromate Works, *J. State Med.* **24:** 18 (Jan.) 1916.
Kober and Hayhurst: Industrial Health, Philadelphia, P. Blakiston's Son & Co., 1924, p. 588.

VALUE OF RICKETS-PREVENTING MEASURES

To the Editor:—My 3 year old boy seemed a perfectly normal baby at birth, and was breast fed for the most part, with some supplementary bottle feeding. At the age of 5 months he had a severe attack of intestinal influenza from which he nearly died. Ever since that time he has been under a well known children's specialist who pays particular attention to rickets. We have done everything that he has suggested for the prevention and cure of rickets, including diet, fresh air, exercise, regular hours, heliotherapy, alpine sun lamp (we have one of our own and use it frequently) and cod liver oil regularly. He has been under constant medical supervision by this physician, but with all this care, when he was examined the other day at the age of 3 years the doctor said he has bad posture, pot belly, poor chest, flabby arms, knock-knee and flatfoot. Now I am wondering what good all this effort at preventing rickets has done. Perhaps he would be in a worse condition now if he had not had good treatment. Is heredity at fault, perhaps? His heredity is at least a good average. Please omit name.

M.D., Oregon.

ANSWER.—Perhaps the inquirer answers his own questions—the child might have been worse. However, it seems only fair to give a word of encouragement. The direction and care have been thorough and all that could be asked if the routine indicated has been carried out. There is no regret so far as the omission of care that might have been given. The weight and height are assumed to be near normal. Poor posture is a frequent observation. Exercise and training will overcome it and at the same time at least lessen the pot belly, tone up the body muscles and improve the flatfoot. Properly fitted and supported shoes may also be indicated. All that the doctor said may be true and the boy still be not far from the average.

POSSIBLE REINFECTION WITH GONORRHEA

To the Editor:—Kindly advise with regard to the following: A man infects his wife with gonorrhea. He takes treatment and is cured. Can he become reinfected through intercourse with his wife? A man contracts gonorrhea from a woman, takes treatment and is cured. Can he become reinfected from the same woman, or is there an immunity?

M.D., North Carolina.

ANSWER.—Reinfection is always probable as long as the original carrier of the infection is not thoroughly cured. Gonorrheal infection never produces immunity against infection from subsequent exposure.

X-RAY DOSAGE

To the Editor:—Some time ago in reply to a question regarding roentgenotherapy, you stated the following: "Increase of the focal spot-skin distance, the other factors remaining the same, requires an increase in the time of roentgen-ray exposure according to the square of the distance; thus, an increase of 5 inches over 10 inches, specified by our correspondent, will require a practical doubling of the time or, more accurately, $T \times (15/10)^2 = 125$ per cent increase in time." Witherbee and Remer's book on x-ray dosage, published by the Macmillan Company, on page 24, states: "Distance in filtered dosage, instead of obeying the laws of light, produces double the effect at half distance instead of four times, as in unfiltered ray. Which of these two statements is a fact? Please omit name.

M.D., California.

ANSWER.—This query harks back to the controversy which took place several years ago which attracted the attention of all workers in x-ray therapy. The correspondent is referred to the thorough exposition of the "Inverse Square of the Distance Law for Filtered Roentgen Radiation," by McKee and Andrews, in the *American Journal of Roentgenology* (**12**:58 [July] 1924), wherein is set forth scientific and clinical data which establish the correctness of this law.

The law for filtered radiation is the same as for unfiltered radiation; namely, that x-ray intensity varies inversely as the square of the distance.

It has been claimed by some that the intensity varies inversely as the distance, but this is incorrect as shown by McKee and Andrews as well as by other authorities in biophysics.

It appears that the inquiry comes from one who supports Witherbee and Remer's idea on this question. Practically all x-ray therapeutists of large experience and high standing are entirely in accord with McKee's work.

ALKALINITY OF URINE DURING SIPPY TREATMENT

To the Editor:—In treating a patient for ulcer of the stomach by the Sippy method, I find that the urine is continuously strongly alkaline. Does this condition of the urine usually exist through the entire time of the treatment? If so, is it harmful? What are the symptoms of its harmfulness? Please omit name.

M.D., Wisconsin.

ANSWER.—The alkalinity of the urine during the management of ulcer is due to excessive use of alkalis. Definite harm has been done in some cases by the excessive use of alkalis, and the urine during ulcer management, to be ideal, should be neutral or slightly acid. The symptoms of its harmfulness are those associated with an alkalosis and evidence of definite renal impairment, and continual use of alkalis under these conditions may give nausea, headache, vertigo, light-headedness, later edema and alcoholic-like delirium, with a markedly increased carbon dioxide combining power of the blood, a diminished amount of chlorides, and an increase of the nonprotein nitrogen and the urea nitrogen. When the alkalinity of the urine develops, one should discontinue the use of ordinary alkalis and substitute tertiary magnesium phosphate or tertiary calcium phosphate, which are described in New and Nonofficial Remedies.

CARE AFTER RADICAL MASTOID OPERATION

To the Editor:—What is the best after-treatment in a thoroughly done radical mastoid operation, especially as to excessive discharge and granulations? The operation was performed thirty-one days ago.

G. B. DUDLEY, JR., M.D., Martinsville, Va.

ANSWER.—It is most important that the granulations be watched daily or at least every second day in order to control them. With a very fine curet or small punch forceps the granulations should be carefully removed and the underlying surface cauterized with a concentrated silver nitrate solution, such as 25 or 50 per cent, or by a silver nitrate bead fused on a probe. Sometimes the use of a packing of 50 per cent alcohol will diminish the secretion, and after the use of silver nitrate it is

often best to pack with gauze saturated with petrolatum. Some men prefer chromic acid (Chromium trioxide, U. S. P.) for cauterization but that must be very cautiously used and immediately neutralized with sodium bicarbonate or otherwise marked destruction of the tissue may result.

DOSAGE OF X-RAY IN SKIN CANCER AND IN CARBUNCLE

To the Editor:—1. Please give erythema dose and skin dose of x-ray without filter for 8 and 12 inch distances, using peak kilovolt as determined by sphere gap instead of spark gap. How soon can the dose be repeated? 2. Give x-ray technic in treatment of skin cancer. Is the x-ray considered as beneficial in the treatment of skin cancer as radium? 3. Give technic for x-ray treatment of carbuncle. In treating inflamed skin, is it well to give less than the regular skin dose? Please omit name.

M.D., Georgia.

ANSWER.—1. In x-ray therapy the terms "erythema dose" and "skin dose" are synonymous. Exact dosage formulas vary more or less in each individual x-ray equipment because of minor variations in x-ray output. A formula that would result in an erythema skin dose (E. S. D.) in one x-ray laboratory may be as much as a 25 per cent overdose in another one or an underdose in a third. Individual Coolidge tubes also may vary in x-ray output, occasionally as much as 20 per cent. A "sphere gap" is a spark gap; presumably our correspondent means "point gap" where the words "spark gap" are used. Formerly high tension voltage was measured between so-called points which, unless specifically stated as "needle" points, as in the spark gap tables of the American Society of Electrical Engineers, are practically very small spheres, usually a one-eighth radius point. The larger the size of spheres used to measure high tension voltage, the smaller will be the actual distance between the two spheres at the same breakdown voltage, but there will be no difference in actual voltage, whether measured by a large or small sphere or point gap.

The following is one formula for an erythema skin dose: 5 milliamperes, 75 kilovolts (measured with sphere gap corrected to 500 feet above sea level, 30 centimeters, 12 inches) target to skin surface, no filter, six minutes time. At an 8 inch target to skin distance, the time would be cut by one half, or three minutes, according to the inverse square of distance law. This produces a first degree of skin reaction in a majority of persons. The dose should not be repeated until all redness has disappeared.

2. Skin cancers vary in character, basal cell and prickle cell, for example, which requires a variation in the x-ray formula in order that the best results may be obtained. The proper dosage in any given case depends on several factors, such as the age of the patient, the size (area), thickness (depth), and location, and varies from one to four erythema skin doses. X-ray therapy, properly applied, is equal to radium properly applied in the majority of cases, but some epitheliomas fail to respond to x-rays and disappear under radium, and vice versa. Some therapists combine both in special cases.

3. Give one full erythema skin dose over the entire area of the visible carbuncle and include a narrow zone of the surrounding apparently normal skin.

ADVANCED AGE OF PARENTS AS FACTOR IN MENTAL DEFECT

To the Editor:—The other day a girl of 18 was presented before our staff with a diagnosis of dementia praecox, and in discussing the etiology, I remarked on the fact that her father was 60 years old when she was born, and that for that reason heredity might be considered as an etiologic factor. I had been taught that when children were born to people in advanced life, the debility of old age divested the germ elements of much of the vitality that would have been present in younger years. Is that true? What influence does old age on the part of the parents have on the children? Do you find that children born to parents in their old age are apt to be retarded? (The mother was 40 when this girl was born.) Please omit name.

M.D., New Jersey.

ANSWER.—It is possibly true that advanced age of parents may have an influence on the vigor of offspring, though this is not established by studies and it has not been suggested as an etiologic factor in dementia praecox. The only type of mental deficiency in which this has been shown is in mongolian idiocy; here, however, it seems more probable that the deformity and defect are the outcome of changes in the pelvis of the mother rather than in modifications of the germ plasm; in other words, this seems to be due in all probability to mechanical factors influencing the growth of the fetus in utero.

INFECTED ULCER OF CORNEA AND PNEUMONIA

To the Editor:—I am writing for information concerning an industrial case in which there was an infected ulcer of the cornea following injury due to embedded steel in the cornea and followed by iritis and pneumonia in both lungs. Do you know of any other case of infected cornea followed by pneumonia? Is it possible that a pneumococcus infection of the cornea could be the original source of the lung infection? (No culture was made in this case.) Any light that you can give me will be greatly appreciated, and possibly aid the industrial commission in its decision. My own opinion is that the patient had a pneumonic infection before entering the hospital, even though he had no fever.

M.D., Virginia.

ANSWER.—Apparently medical literature provides no reports of corneal ulcer followed by pneumonia. It is difficult to see how a pneumococcus infection of the cornea could cause a pneumococcus infection of the lung without development of a generalized pneumococcic septicemia, which the clinical history does not indicate. In all probability, the pneumonia resulted from the exposure and wetting to which the patient was subjected the first night in the hospital. Osler emphasizes exposure as an etiologic factor of lobar pneumonia. In view of the fact that no cultures were made, it cannot be said that the same organism was responsible for the ulcer and for the pneumonia. In view of the lack of laboratory work in this case, the corneal ulcer and the lobar pneumonia must be regarded as coincidental rather than etiologically related.

ACTION OF ANTACID MIXTURE

To the Editor:—I have a patient who gets great relief from the following:

Potassium citrate	grs. xx
Sodium bicarbonate	grs. v
Water, q. s.	ad 3i

This solution he has taken and prescribed to his friends for years for sour or gaseous stomach; in fact, for about everything that seems to trouble the abdomen. The prescription was given by an old M.D. many years ago to this man and he has treasured it ever since. Does it seem a safe and sane thing to take? Would there be any reaction in it that would change its character? Please omit name.

M.D., New York.

ANSWER.—This is a powerful and promptly acting antacid and alkaline diuretic. Nevertheless, it is probably not as safe as the insoluble antacids like calcium carbonate (chalk) or magnesium oxide (magnesia) from the standpoint of possible provocation of hemorrhage by dissolving a protective clot or the liability of producing gastric irritation, if ingested without adequate dilution.

MASTODYNIA

To the Editor:—What treatment is suggested for mastodynia in a woman, aged 35, otherwise strong and healthy? Her generative organs are normal. There are a few nodules in the breast which are barely perceptible on palpation. Please omit name.

M.D., Iowa.

ANSWER.—Pain in the breasts may be due to a great variety of causes. Aside from lesions of the mammary tissues, genital abnormalities are the most important factors in the etiology. Even though pelvic examination does not reveal any pathologic changes, functional disturbances of the genitalia must be considered; above all, it is essential that a careful history of the patient's sexual life be obtained. Among the local causes of mastodynia, one which is frequently overlooked is neuritis produced by arthritis of the upper dorsal spine. The treatment differs according to the etiology and is chiefly symptomatic. Elevation of the breasts, without pressure, often affords relief when all other measures fail.

ELECTRICAL TREATMENT IN CONSTIPATION — FULGURATION FOR TONSILLITIS — ELECTROLYSIS OF HEMORRHOIDS — ULTRAVIOLET RADIATION AND TRACHOMA

To the Editor:—1. Please advise me what forms (and their technic) of electrical treatment can help or definitely cure chronic constipation due to different causes. Can rhythmic condenser discharges cure or help in curing chronic constipation due to atony of some definite type? 2. Can chronic enlargement of the tonsils be cured by fulguration or bipolar diathermy? 3. What is the relative absolute value of electrolysis and diathermy in the treatment of hemorrhoids, and ultraviolet rays in the treatment of trachoma? 4. Different makers design apparatus to deliver sinusoidal and galvanic currents of various curves. Are there any advantages?

DIWAN CHAND AGARWAL, M.D., Lahore, India.

ANSWER.—1. Further proof is needed before electricity can be accepted as a method of treating constipation. There is some literature on its uses (Boles, R. S.: Constipation, THE JOURNAL, Nov. 19, 1927, p. 1766). Its only value may be in

stimulating the voluntary muscles of the abdomen, and it is questionable whether exercise of these muscles would not be of more benefit.

2. The ordinary tonsillectomy is so simple that there seems to be no necessity for other methods, which are not sufficiently established and are often dangerous.

3. There is no record that these two methods have been adopted by surgeons as a routine or accepted treatment of hemorrhoids. One author in a recent article reports success of treatment with ultraviolet rays in trachoma, but his work has not been confirmed.

4. It has not been proved that any current is superior to an interrupted galvanic current to elicit contraction in a paralyzed muscle. Likewise, it has not been proved that any current is superior to the faradic current to stimulate contraction in a weakened muscle. The claims made for the various complicated machines that deliver various sinusoidal and galvanic currents have not yet been substantiated.

BISMUTH PREPARATIONS IN SYPHILIS

To the Editor:—In the treatment of syphilis, which of the various bismuth preparations do you consider the most potent? Please omit my name.

M.D., New Mexico.

ANSWER.—Soluble bismuth preparations appear to be receiving preference over insoluble ones. In particular, soluble bismuth tartrate preparations have been used extensively. Bismuth salicylate preparations have been used with good effect, though bismuth salicylate has the objection of being insoluble and thus not readily absorbed (Cole, Farmer and Miskidjian: THE JOURNAL, May 1, 1926, p. 1352).

PERIODIC SWELLING OF PAROTID GLAND

To the Editor:—I have a boy, 12 years of age, who has periodic swelling of both parotid glands. This occurs at intervals of from four to six months. He has considerable pain and a temperature about 102 F. The duration is from three to six days. Recovery apparently is complete. Examination for tubercle bacillus is negative. I should like to have your opinion on this or similar cases; also treatment.

BOLIN CRINER, D.D.S., Booneville, Ark.

ANSWER.—The description might well be that of ordinary epidemic parotitis except for the recurrent attacks. Calculi are rare and more usually unilateral. Inflammation of the parotid glands may occur with local mouth infections and infections in the nasopharynx. There may be an acute inflammatory reaction with certain drugs, such as iodine. It may be secondary to a foreign body in the duct. The latter most likely would be unilateral.

The treatment would depend entirely on the conditions found and the course. Local infection in the mouth and nasopharynx should be removed if possible.

TREATMENT OF PROSTATISM

To the Editor:—Will you kindly offer some advice on the following case: A professional man, aged 52, single, has had for the past five and a half years symptoms of prostatism, erections at night, nocturnal irritability of the bladder, and at intervals dragging, burning sensations around the vesical neck with tenesmus and frequent urination. Rarely there is some prostatic discharge with a few pus cells. The attacks of tenesmus and frequent urination are somewhat better at present, but the erections at night and the vesical irritability during the same time still occur. Treatment has been chiefly prostatic massage, with some dilation of the prostatic urethra, latter usually causing some reaction. The patient had gonorrhea twenty-five or thirty years ago. I wonder whether diathermy would do good in this case, or what other measures of relief could be suggested. The bladder appears normal after cystoscopy. Please omit name and address.

M.D., Colorado.

ANSWER.—Prolonged diathermy treatments under a moderate magnitude of current may be beneficial. Each heat treatment should be followed by prostatic and vesicular massage.

POSSIBLE POISONING FROM PARSNIPS

To the Editor:—It has been the general impression wherever I have lived that a parsnip becomes poisonous if allowed to remain in the ground over winter and grow during the following summer. Is this a fact, or does a parsnip ever become poisonous?

F. W. MITCHELL, M.D., Ogema, Wis.

ANSWER.—It appears to be a rather popular notion that the statement made is correct, but really accurate experiments proving that it is true are not available. It goes without saying, of course, that if a parsnip is left to grow the second year the root cannot possibly be considered of food value because the greater part of the carbohydrate and other materials stored are obviously going to be utilized during the flowering and seeding of the parsnip plant. So far as available evidence indicates, no poisonous principle is developed in the non-green parts, at least of a parsnip which has been left out in the ground during the winter and grown up again the following summer. It is, of course, a regular procedure to leave parsnips in the ground during the winter.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 10. Chm., Dr. S. W. Welch, 519 Dexter Ave., Montgomery.

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Minneapolis, June 11. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Minneapolis, June 11. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

CALIFORNIA: San Francisco, July 9. Sec., Dr. Chas. B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 3. Sec., Dr. Philip Work, 324 Metropolitan Bldg., Denver.

CONNECTICUT: Hartford, July 10-11. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford. Sec., Homeo. Bd., Dr. E. C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 19-21. Sec., Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 10. Sec., Dr. E. C. Copeland, Suite 110, 1801 Eye St., Washington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

HAWAII: Honolulu, July 9-12. Sec., Dr. James A. Morgan, Honolulu.

ILLINOIS: Chicago, June 26-29. Supt. of Regis., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, June 19. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 5-7. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, June 14-16. Sec., Reg. Bd., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 2-3. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 19-22. Sec., Reg. Bd., Dr. Henry H. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 12. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MASSACHUSETTS: Boston, July 10-12. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MICHIGAN: Ann Arbor, June 12-14 and Detroit, June 18-20. Sec. Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 19-21. Sec., Reg. Bd., Dr. A. E. Comstock, 524 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 20-22. Sec., Dr. F. J. Underwood, Jackson.

MISSOURI: St. Louis, July 17-19. Sec., Dr. James Stewart, Capitol Bldg., Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Class A Medical Schools, June 13-15. Dir., 608-12 Fifteenth and Locust Sts., Philadelphia.

NEBRASKA: Omaha, June 21-23. Sec., Reg. Bd., Mr. Lincoln C. Frost, Lincoln.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Chas. B. Kelley, 30 W. State St., Trenton.

NEW YORK: New York City, Albany, Syracuse and Buffalo, June 25-28. Sec., Dr. Harold Rypins, Educational Bldg., Albany.

NORTH CAROLINA: Raleigh, June 18. Sec., Dr. John W. MacConnell, Davidson.

NORTH DAKOTA: Grand Forks, July 3. Sec., Dr. G. M. Williamson, Grand Forks.

OKLAHOMA: Oklahoma City, June 12-13. Sec., Dr. J. M. Byrum, Shawnee.

OREGON: Portland, July 10-12. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

RHODE ISLAND: Providence, July 5-6. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Custer State Park (Postoffice, Hermosa), July 17. Sec., Dr. H. R. Kenaston, Bonesteel.

TENNESSEE: Memphis, Nashville, Knoxville, June 14-15. Sec., Dr. A. B. De Loach, Medical Arts Bldg., Memphis.

TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, 918-919 Mercantile Bank Bldg., Dallas.

UTAH: Salt Lake City, July 2. Dir., Mr. M. H. Welling, 412 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 27-29. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, Box 444, Roanoke.

WASHINGTON: Seattle, July 16. Dir., Reg. Bd., Mr. Charles Maybury, Olympia. Basic Science Bd., July 12. Dir., Mr. Charles Maybury, Olympia.

WEST VIRGINIA: Martinsburg, July 10. Sec., Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, June 26-28. Sec., Reg. Bd., Dr. Robert E. Flynn, La Crosse. Sec., Basic Science Bd., Prof. M. F. Guyer, University of Wisconsin.

DOMICILIARY MEDICINE IN FOURTH YEAR MEDICAL TEACHING*

G. LOMBARD KELLY, M.D., AND IRVINE PHINIZY, M.D.
AUGUSTA, GA.

The term domiciliary medicine signifies the treatment of patients in their homes. This paper deals with the use of clinical material in the home for teaching purposes and describes the work as it has been carried on in the Medical Department of the University of Georgia for the past two and a half years.

It had long been realized that a large supply of teaching material, consisting of the free patients attended by the city physicians, was not being taken advantage of. In the early months of 1925 a decision was made to have one section of the fourth year class assigned to special duty in connection with these patients, so that the students might see and study types of cases that are usually not seen in the hospital. In addition, they were to be given the added advantage of the more intimate teaching of bedside medicine and an experience that cannot be gained elsewhere than in the patient's home.

Up to this time the senior class had been divided into three groups, one in medicine, one in surgery, and one in the specialties. The realization that the specialty section was not benefiting to the fullest advantage in proportion to the time allotted became acute and a change was deemed necessary. The evolution of the idea to be described here was apparently spontaneous. Opinion of the teaching staff rapidly crystallized in regard to the project, which was viewed favorably on all sides. The idea itself presented nothing essentially new, as outpatient teaching in obstetrics had preceded it by decades, and the use of other than obstetric patients in the homes of the poor for teaching general medicine was but an extension of the same principle. As far as we know, however, the application of this idea on a similar scale has never been attempted before. A report of this innovation was made by Goodrich and Sydenstricker[1] shortly after the work was begun. Our purpose in this article is to describe the conduct of the course in brief; to add a summary of the experience gained during this experiment, and to appraise the results obtained.

The University of Georgia Medical Department is located in Augusta, a city with a population of between 55,000 and 60,000 persons, nearly half of whom are negroes. At the time the proposal was made to promulgate the present plan of outpatient teaching, the city had three regular city physicians, each assigned to one of three districts into which the city was divided.

By virtue of a binding contract with the city and county, the medical school enjoys the privilege of exercising medical and surgical control over all the free patients in the city and county. This made the execution of the plan simple, all that was necessary being a formulation of the modus operandi of the work.

The physicians who have had active charge of this work so far have taken the assignment for only one year. They have all three had hospital experience, two having had three years of such postgraduate work. A suggestion that has not yet been adopted is that the work be placed in charge of a member of the hospital staff, to be called the outpatient resident. It is believed that a full-time officer in charge of the activities of this department would increase its efficiency.

All calls for city physicians come to the University Hospital, where they are received by a special clerk, who turns them over to the proper physicians. Each call is recorded and filed. The city physician is furnished with a form on which he reports each call, giving the date, the name of the patient and the diagnosis. Each year in his annual report the superintendent of the hospital gives the total number of free calls by districts. Those totals are exclusive of obstetric calls, which are handled altogether by the outpatient service of the obstetric department.

These totals for the year 1925, for example, were as follows: district 1, 3,481 visits; district 2, 4,903 visits; district 3, 1,891 visits.

Districts 1 and 3 were the ones in which this work was inaugurated.

The average number of students in the fourth year class is thirty and it is unlikely that this number will be exceeded at any time in the near future, as the first year class is limited to thirty-six students. Since this work was begun, the number of city physicians has been reduced to two, district 1 remaining unchanged, the second district having been formed by the consolidation of districts 2 and 3, and the outpatient work restricted to district 1. The new district (district 2) offers sufficient room for growth in case such an expansion is needed in order to secure additional clinical material for this course.

The plan of procedure is as follows: The senior class is divided into three sections of about ten each. One of these sections is put on this service each trimester of eleven weeks. Within the hospital, space for the group is provided, with tables for writing, chart paper, pigeonholes for current records, and filing cases for the charts of discharged patients.

In addition, each student is supplied with a kit containing a Wassermann syringe and needles, specimen bottles, a Tallqvist scale and tongue depressors. The students furnish their own sphygmomanometers, hemacytometers, thermometers and flashlights.

Transportation by automobile is practically universal and as a rule two students go together, each having the advantage of observing the patient assigned to the other. A small monthly allowance is made for gasoline consumption or street car fare.

Hanging in the office of the clerk who receives the free calls is a chart bearing the names of the members of the group assigned to this service. On this chart, in rotation, the physician in charge assigns those of the patients he sees that he feels are suitable for study. Certain patients malingering in an effort to have sick claims signed against insurance companies and others slightly ill are usually not assigned.

As soon as a patient is assigned to a student, the latter visits the patient's home and takes a complete history of the case. Following this, he makes a complete physical examination and obtains specimens for laboratory examination. The latter examination includes a leukocyte count, Wassermann test and urinalysis (routine). Specimens of feces, sputum and blood (for erythrocyte count or hemoglobin determination, Widal test, blood culture or blood analysis) are obtained for examination if indicated.

Returning to the hospital the student writes a full record of the history and physical examinations and later adds the laboratory reactions as they are made available. Each day he is required to visit patients acutely ill and every second or third day patients with chronic illness. On the chart he notes the progress of the patient. The physician in charge is to be called in consultation whenever necessary and advised immediately of the unsatisfactory progress of the patient.

The physician in charge on his first visit to the patient makes an examination and prescribes the treatment. On a slip provided for that purpose he outlines the treatment, writing out the prescriptions of the medicines he gives, but does not tell his impression of the case. Further treatment is added by the student in charge of the case, with the approval of the head.

* From the Department of Medicine, University of Georgia Medical Department.

1. Goodrich, W. H., and Sydenstricker, V. P.: Attendance on City's Sick Poor as Part of Clinical Instruction at the Medical Department of the University of Georgia, Methods and Problems of Medical Education, series 6, 1926, p. 247.

Once each week this group assembles in the hospital for a history meeting with the physician in charge. Others attending these meetings are the full-time professor of medicine and also, at times, the full-time professor of surgery. At this meeting the histories of patients who were dismissed during the week just past are discussed and final diagnoses are written on the faces of the charts.

Following the meetings, the charts are filed in special cabinets provided for the purpose and kept for future reference. Quite often after patients are sent to the hospital, members of the house staff find these charts of considerable help.

Patients on the outside service that are sent to the hospital are discharged from the former service and, of course, are assigned to the students on the medical or surgical service in the hospital, but students on the outside service are encouraged to follow the progress of such patients, and they usually do so with keen interest.

The accompanying table gives an idea of the types and numbers of cases encountered in the homes of the patients visited. The records of these cases are taken from 434 charts filed during the school year 1926-1927 and represent an average of the whole. Naturally, on account of plural diagnosis, the number of individual patients is smaller than the disease incidences reported.

Types and Incidence of Cases Encountered

	Number
SYPHILIS	
Associated with cardiovascular disease	41
Associated with independent disease	79
Syphilitic manifestations:	
Aortic insufficiency	4
Aortis	3
Aneurysm	5
Bell's palsy	2
Gumma of liver	1
Iritis	4
Neuritis	3
General paralysis	6
Tabes	2
Periostitis	3
Syphilids	2
Anemia	1
Conjunctivitis	2
Mutism	1
OTHER VENEREAL DISEASES	
Urethritis, gonorrheal	21
Salpingitis	27
Epididymitis	1
Prostatitis, acute gonorrheal	1
Vulvitis	1
Bartholinitis	3
Inguinal adenitis, suppurative	3
Condyloma acuminatum	1
Chancroid	5
URINARY TRACT	
Pyonephrosis	2
Nephrosis	1
Pyelitis	11
Nephroptosis	2
Nephritis	12
Uremia	3
Cystitis	6
Bladder stone	1
GASTRO-INTESTINAL TRACT	
Ulcerative stomatitis	4
Acute food poisoning	7
Peptic ulcer	1
Pylorospasm	1
Appendical abscess	1
Carcinoma of pancreas	2
Carcinoma of cecum	2
Rectal fistula	1
Rectal stricture	2
Ischiorectal abscess	1
CARDIOVASCULAR DISEASES	
Vascular disease with heart involvement	25
Vascular disease with cerebral hemorrhage	10
Vascular disease with cerebral softening	9
Varicose veins	2
Myocardial insufficiency	11
Mitral insufficiency	5
Aortic insufficiency	2
Angina pectoris	3
Pericarditis	1
RESPIRATORY DISEASES	
Lobar pneumonia	3
Bronchopneumonia	3
Bronchitis	22
Laryngitis	1
Tonsillitis	9
Coryza	5
Grip	19
Pleurisy, fibrinous	3
Bronchiectasis	1
Bronchial asthma	4
Carcinoma of bronchus	1
SPECIFIC INFECTIONS	
Amebic dysentery	4
Diphtheria	1
Herpes zoster	2
Malaria	24
Mumps	1
Tuberculosis:	
Lungs	9
Peritoneum	1
Pleura	1
Glandular	3
Miliary	2
Empyema necessitatis	1
Typhoid	2
Varicella	4
Variola	12
Vincent's angina	1
PSYCHE	
Dementia praecox	1
Epilepsy with mental deterioration	1
Hysteria	1
Nervous exhaustion	1
Psyches not classified	2
Toxic psychosis	1
FEMALE GENERATIVE ORGANS	
Pregnancy	8
Abortion	3
Uterine fibroids	8
Carcinoma of uterus	1
SKIN AND SUBCUTANEOUS TISSUES	
Leg ulcer	3
Cellulitis of leg	2
Leg ulcer with cellulitis	1
Leg ulcer with varicose veins	4
Eczema	2
Impetigo	1
CONSTITUTIONAL AND NUTRITIONAL	
Pellagra	6
Diabetes mellitus	3
DUCTLESS GLANDS	
Adolescent goiter	1
Obesity	2
Hyperthyroidism	1
DENTAL SEPSIS	
Neuritis	6
Myositis	2
Arthritis:	
Acute infectious	3
Chronic infectious	6
Senile	3
Deformans	1
MISCELLANEOUS	
Sacro-iliac strain	1
Amaurosis	2
Cervical adenitis, acute	1
Hydrocele	1
Hydrocephalus	1
Glaucoma	1
Epigastric hernia	1
Abdominal adhesions	1
No diagnosis	25
Total cases studied	434

The incidence of syphilis (41 per cent) is quite heavy. Of the total number of charts reported on here, 93 per cent were those of negro patients and 7 per cent were those of white patients.

Cardiovascular disease ranks second, and it is worthy of note that a large number of cases of syphilis were associated with cardiac disease.

Of the respiratory diseases, grip and bronchitis lead in numbers, with coryza third. Among the specific infections malaria and variola are noteworthy, while tuberculosis was intermediate between the two. Patients with pneumonia and typhoid were immediately sent to the hospital.

Diseases of the nervous system were comparatively few (seven in all), but to these must be added the six cases of syphilis associated with general paralysis.

A few cases of pregnancy and abortion are reported, but this is due to the error of the persons sending in the calls, as such cases are transferred immediately to the outside obstetric service.

Six cases of pellagra are worthy of note.

It would seem that the record of no diagnosis in twenty-five cases is unusual. The explanation of this is that most of these

patients were seen only once, as they subsequently left home or called private physicians. A great many nuisance calls attend a service of this kind and not the least annoying is the sick-claim malingerer. But in some cases studied no diagnosis could be made.

Among the diseases seen in this service that are not apt to be encountered in the hospital may be mentioned coryza, grip, parotitis, varicella, variola and impetigo. The city has ceased segregating patients with smallpox and they are treated in their homes. Scarlatina is of rather rare occurrence in the South. Two cases were seen in this service the first year that it was begun; none were seen the second year, but during the first half of the third year there were several cases, accompanying a small epidemic of the disease throughout the city. Diphtheria is not encountered to the extent that one would imagine; only one case is listed in the table. Many cases of measles have been seen this year (1927-1928).

The students are unqualifiedly pleased with the work, and the teaching staff considers the experiment a decided success. There are some features in which improvement can and will be made, but on the whole it is felt that the innovation has been of a most worth while nature, filling a long felt want for bedside teaching for medical students. The students in this service are largely thrown on their own responsibility after the patients are once assigned to them, and while they have recourse to help when it is needed, they pride themselves on conducting the cases satisfactorily without assistance when that it possible. Their work is followed from the charts, which carry the notations of treatment and of progress.

The work of the physician in charge is considerably lessened, as the number of calls he has to make is much reduced and the number of specimens he has to obtain for laboratory examination is greatly decreased. Moreover, the patient derives the advantage of more careful checking, and of careful examinations of the blood and urine, on the whole receiving more attention than could otherwise be given him. For these reasons it is believed that this feature in fourth year medical teaching is a fixture here and a happy solution to a knotty problem.

Oklahoma March Examination

Dr. J. M. Byrum, secretary of the Oklahoma Board of Medical Examiners, reports the written examination held at Oklahoma City, March 13-14, 1928. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Nine candidates were examined, all of whom passed. Fourteen, including an undergraduate, were licensed by reciprocity, 2 physicians were licensed by endorsement of their credentials and 4 physicians were licensed by reregistration. The following colleges were represented:

College	PASSED	Year Grad.	Number Passed
University of Arkansas School of Medicine		(1927)	1
Howard University School of Medicine		(1927)	1
State University of Iowa College of Medicine		(1927)	1
Harvard University Medical School		(1924)	1
Creighton University School of Medicine		(1927)	1
University of Nebraska College of Medicine		(1928)	1
University of Texas School of Medicine		(1926)	1
McGill University Faculty of Medicine		(1927)	2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Little Rock		(1911)	Arkansas
University of Arkansas School of Medicine		(1912)	Arkansas
Emory University School of Medicine		(1924)	Georgia
Hahnemann Medical College and Hospital, Chicago		(1915)	Florida
Northwestern University Medical School		(1926)	Illinois
Rush Medical College		(1926)	Illinois
State University of Iowa College of Medicine		(1910)	Washington
University of Kansas School of Medicine		(1912), (1920)	Kansas
Kentucky School of Medicine, Louisville		(1904)	Kentucky
University of Michigan Medical School		(1923)	Illinois
Washington University School of Medicine		(1925)	Missouri
Medical College of Virginia		(1900)	W. Virginia
Undergraduate			Texas

College	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement with
Yale University School of Medicine		(1924)	N. B. M. Ex.
Harvard University Medical School		(1926)	N. B. M. Ex.

Medical Economics

SOME TENDENCIES IN THE BUSINESS OF THE PRACTICE OF MEDICINE*

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On an occasion like this, devoted to honoring our elder statesmen, I have thought it might be fitting to consider some of the problems of our profession as a bread-and-butter occupation. For when one reaches our stage of the journey he is given to considering practical affairs as they are and not as we dream of them; trying to square them with his experience; and, on the basis of this, trying to peer far enough into the future to see where they are tending. It is in a mood of this sort that I am proposing this evening to consider certain tendencies that are developing in what, for the lack of a shorter and better title, I call the business of the practice of medicine. I am using the word "business" advisedly, meaning by that the occupation by which we make a living. I use it also to challenge a certain sort of criticism that is directed at us.

THE BUSINESS OF PRACTICING MEDICINE

Some of my friends take deep offense when I use the word business in connection with the practice of medicine, contending that the doctor's calling is so far above business that it is a reflection to use the term in connection with it. The use of the word should carry no opprobrium. What Herbert Spencer called the imperious necessity of making a living is, of course, the first effort of every man. All of his ambitions, indeed, most of his usefulness to society, are contingent on that; and the higher his ambitions and aspirations, the more he comprehends in his conception of what constitutes a living. Medicine in assuming any attitude of indifference to its business—and it is allowing itself to be put in that position—is fooling itself into thinking that physicians are not like other men. And that is not true; we are a cross-section of our stratum of society. It is medicine's glory that altruism is ingrained in its traditions; that it puts self secondary to the public good; and that constantly—and more effectively than any other group in the community—it is trying to eradicate that by which it lives. But these things being true—and they are true—we have a right, and we must, for our own usefulness to society, consider the business of the profession by which we live.

As I have already said, the world at large takes this right as a matter of course and it gives us credit as a class, I am inclined to think, beyond any other profession for altruism and freedom from crass money getting. There are certain groups, however, who—largely for the various purposes that they are at the time interested in—take quite the opposite attitude toward us and who, as a reason for their criticisms of us or their arguments for the necessity of regulating us from the outside, take the position that we are commercial, that we are mercenary and that we need to be curbed, particularly that our business needs to be regulated for us. As it was put in THE JOURNAL recently, "Medical economics is the science of making a living while satisfying the notions of socialists and social workers."

At present a self-appointed commission, with a representation of practicing physicians, who have been brought in mostly since the commission was organized, is proposing to study the whole subject of medical practice. Judging from the book of its director and spokesman, the commission is of the opinion that medical practice, as now conducted, should be wiped out and replaced by state medicine and industrial and

* Read before a meeting in honor of ex-presidents of the St. Louis Medical Society, April 10, 1928.

other forms of corporate practice. I do not single out this commission for specific mention as illustrating a hostile attitude toward medicine, but I do call attention to it as evidence that efficiency experts in philanthropy and sociology are ready to step in and give us all the advice and management that they think we need. This commission has a right to make such an investigation of us, as it would have to undertake to investigate the burden on the people of the automobile business or of banks or of lawyers or of the ministry, but the fact is that it is choosing us for its investigation. If a self-appointed commission undertook to investigate any other group in the community, how much cooperation would it get? Except by the ministry it would probably be told with profane brusqueness to go to a warmer place. The United States Senate is demonstrating that, with all its official power, it can hardly get away successfully with the investigation of a big business group. But the special point that I would make is that we do not have to take any investigation of us, hostile or sympathetic, lying down.

This business of the practice of medicine is in the aggregate one of the great business of the country. Louis L. Dublin,[1] statistician of the Metropolitan Life Insurance Company, estimates that it aggregates in this country a half billion dollars annually. He further estimates that the collateral businesses that depend on medicine—the business of hospitals, of nursing; of medical supplies—aggregate a billion and a half more. Medicine, then, is one of the great businesses of the country. And that is the business in which we are engaged. We should not leave the consideration of this business or the regulation of it to others. The American Medical Association is considering the establishment of a bureau to consider the economics of medicine. This is, in my opinion, a wise step. It is a subject which we need to consider, not only for our good but for that of the community.

NEW DEVELOPMENTS IN THE PRACTICE OF MEDICINE

The facts in which I am particularly interested here are some of the readjustments and outgrowths in the practice of medicine. They are not, of course, entirely new; they are gradual evolutions in medical practice, but they are developing to a degree now which indicates that we shall see more and more of them in the future, and they need our careful attention. Some of these developments are: health insurance and insurance against the expense of disease; medical care by corporations of their employees; the practice of medicine by hospitals, and by pay clinics usually in connection with medical schools, and by corporations organized for the especial purpose of practicing medicine.

We are probably suffering from these things less than the professions of other countries; they are giving concern to the profession in most parts of the world. Thus the British Medical Association, in July last, adopted the following resolution:

> That the Representative Body, viewing with considerable concern the insidious inroads continually being made on private medical practice under the auspices of the state, voluntary bodies and others, and being of the opinion that this is not only detrimental to the interests of the individual members of the medical profession but ultimately to all classes in the community, instructs the Council to watch all such developments and actively to interest itself in safeguarding private practice amongst all groups in the medical profession, and to develop through the Branches and Divisions closer cooperation with the local medical profession for that purpose.

In considering all of these new developments I have no feeling that medicine has any right to be hostile to them where they are in the interest of the public good. Some of them may not be to our liking, but when they are sound, when they are the natural outcome of social and economic causes, we cannot, if we are intelligent, to say nothing of being public spirited, oppose them. We must adjust ourselves to society's evolution. We exist for society, not society for us. But in that attitude we should give careful thought to these developments; try to see where they are sound and where they are unsound; and, in the one case, adapt our efforts to them; in the other, try to direct them into sound channels or to stop them. And the time to exercise easiest influence on them is in their beginnings.

There are certain social and economic principles we should bear in mind in our judgments on these subjects. One is that the individual should do for himself as far as possible; that the state by stepping in and making one man assume the obligations of another, by doing for the other man what he should do for himself, is pursuing a course of unsound public policy. Another is that where medical service is furnished a man as a part recompense for his labor, he has a right to a voice in deciding how and by whom that medical service should be given. Another is that a profession should do what it can to protect itself in proper privileges that redound to the public good in its service as a social agent. Another is that, other things being equal, individualism in a profession is wholesome; the competition it involves stimulates vigor, initiative and resourcefulness in its members and benefits directly the profession, and, indirectly, society which it serves. It is important to bear in mind fundamental principles of this sort in considering our problems. To live up to them may involve a difficult course. The easy course usually is to follow the line of least resistance and to accept expedients that are temporarily convenient though essentially unsound. That is the temptation that leads us ultimately into great difficulties.

Of these modern developments I wish to consider here only a few of the newer ones. Among these are the practice of medicine for pay by hospitals and medical schools, by clinics associated with them, and by corporations established for the practice of medicine.

PRACTICE OF MEDICINE BY LAY-CONTROLLED INSTITUTIONS

Hospitals, and medical schools in their dispensaries, have long practiced medicine for the indigent. With this we have no quarrel, although there is dissatisfaction with the methods of operation, through failure to discriminate between patients worthy and unworthy of charity. In the last few years many of these organizations have stepped over into the practice for pay, on patients who are not charity patients. Some of the hospitals, usually, but not always, connected with medical schools and manned by full-time physicians, have frankly gone into the practice of medicine for pay; part of these propose to confine their practice to those who are able to pay only small fees; others for anybody who comes to them. These hospitals or schools employ physicians, make the charges, collect the fees and put them in their own treasury. This represents a puzzling situation for the medical profession. Here distinctly corporations are going into the practice of medicine, hiring doctors, farming out their services and collecting their fees. But it is not enough simply to base our opposition on this statement of the situation. The institutions taking this step, we hope, realize their responsibilities in thus invading the practice of medicine, and are trying to surround their work with all the safeguards that are practicable. But it is a difficult situation all the same.

Taking it as a whole, this is a new development which medicine should view with misgivings, if not with hostility. The situation is economically unfair. Here are great organizations incorporated as institutions of education, research and scholarship, and not to earn money. They are backed by great endowments or by the state. It may be said, indeed, that these endowments are given with the tacit assumption that the institutions are not in the business of earning money. They are incorporated not for profit; they

1. Dublin, L. L.: Harper's Magazine, November, 1927.

are free from taxation. And yet they are in the business of practicing medicine. They have their overhead taken care of by their endowment and by their freedom from taxes. They have the prestige of their great positions in their communities to pull business. The individual doctors with whom they are competing are at a disadvantage in every one of these respects. They have no endowment; they must live by their practice. They must provide their own overhead and take care of it in their fees. They are not free from taxation. They must gain and hold their practice by their works. They have no reflected greatness to attract it to them. If this sort of university hospital practice were widespread, it would destroy medicine as an individual occupation.

Some of these institutions have gone much further and are proposing to practice medicine for pay at prices much under what the profession has found it necessary to charge. One or two of them—although I believe they have retreated from this stand—have gone so far as to undertake to tell the profession how much is the maximum that its services are worth and to take the position that no single medical service is worth more than $200 or $300. That is a sort of competition with and regulation by lay corporations of the practice of medicine that, I believe, should be destroyed if we are able to destroy it.

What has been said about the hospital practicing for pay applies to the pay clinics established in connection with medical schools.

LAY INSTITUTIONS ORGANIZED FOR THE PRACTICE OF MEDICINE

In the last few years there has been an altogether new invasion of the field of medicine by laymen through institutions for periodic health examinations and to tell people how to keep well. The outstanding example of this is the Life Extension Institute. This is an organization practically conducted by laymen—although it has an advisory committee of medical men—with its home office in New York, which has gone into a national business of periodic health examination. It solicits business by advertising (e. g., New York *Times* Sunday Magazine, March 25, 1928, p. 21). This is an extreme example of laymen undertaking to manage medical affairs by farming out the medical work which they control to doctors. It is a sort of work which ought to be done by the physician on his own account and not as an employee of an absentee concern. Certainly physicians should do this work themselves, and if organizations are necessary to do it, they should devise some plan by which they can furnish the organizations. It is a rank invasion of medicine's functions by lay business organizations and it is an invasion which we should try to stop.

I know of but one corporation which is in business for the sole purpose of the usual practice of medicine, but there is an institution in Chicago—the Public Health Institute—which has been in existence now for eight or ten years and which presents a new problem in the business of the practice of medicine. This is an institution incorporated not for profit, and sponsored by a group of nonmedical men, which has been set up for the purpose of furnishing medical services in a certain field at a price below that at which the medical profession can individually furnish them. In order to get its practice it has pursued a policy, continuous and extensive, of newspaper advertising. There can be no question of the motive or of the character of the men who are behind this enterprise, and that has made this particular case a much more difficult one to handle. But there is no inherent obstacle to prevent similar organizations from establishing themselves for the frank business of practicing medicine for what there is in it. And the problem is therefore much larger than this particular institution. It is the problem of taking over the business of practicing medicine by laymen through corporations. There are many obstacles which such corporations will have to meet, in the traditions of society toward the practice of medicine, and in the attitude of the profession, before they can become widespread or well established, but there is a tendency toward their development. This is a form of medical practice to which I believe the profession should offer its strongest opposition. The physicians engaged in such methods of practice are little more than employees in a technical business. If such organizations were common in our cities, the practice of medicine would lose a large part of its attractiveness and would cease to call to it the only sort of men it needs—men of high ambitions and altruistic instincts. For this reason, if for no other, it is to the community's interest that such organizations should be opposed. Omitting its advertising, this institution does show how business methods can be effectively used in the practice of medicine.

GENERAL BAD EFFECTS OF LAY CONTROL

There is one general objection to all of these forms of the practice of medicine by corporations and that is the unfortunate effect on individual initiative and ambition. It seems to me axiomatic that that profession is in the most wholesome situation whose members are professionally independent individuals and whose position in the community is one of personal responsibility. To the extent that that is true, it is best for medicine that its members should be independent practitioners. And to the extent that the latter fact is true the independent practice of medicine is to be encouraged. The lawyers have emphasized their position on this subject by having laws enacted in many states preventing corporations from practicing law. The ground would certainly be as good for laws against the practice of medicine by corporations.

Let me say, I do not believe these developments are going to be a flood that will swamp the individual practice of medicine. There will always be a place, no matter how unfavorable the situation is made by corporate practice, for the strong individual in practice, as there is, for example, in engineering, whose practice I should say has become almost completely corporate. And there will always be a place for the family doctor, certainly in the country, and, I believe, as well in the city. These exceptions, however, do not affect the general effect of the trend in the other direction.

NECESSITY FOR A POSITIVE ATTITUDE OF MEDICINE IN ITS READJUSTMENTS

How are we going to meet these developing situations? In all of the foregoing our position has been a negative one. No active proposals are suggested to meet them. We are simply trying to do what we can to confine these movements to proper channels. We are in the position of bystanders who would undertake more or less effectually to make the situations as satisfactory as possible. And we are bystanders in a form of social service which we have made and which is built upon us. We are not simply the hands or the dial of the clock; we are the whole works, or, if not that, at least the pendulum or the balance wheel around which the clock is built. All the agencies engaged in healing the sick and injured except us can be destroyed and we can proceed at once to their restoration. We ought not to be bystanders in this situation and we should accept no such position.

There is no way in which we can play our proper part in the solution of these problems of medical service if we accept a passive rôle in their solution. We have no right to complain if we are left out of their solution, unless we show constructive activity in the business of medicine.

What can medicine do to counteract these tendencies? The first thing, and the most important, would be to put practice

back in the homes of the patients, where 90 per cent of it belongs. The essential thing to do this is to produce doctors that can, as they should, treat this 90 per cent of the illnesses that come to them. There are a few people, who are able to afford every convenience and luxury, who prefer the hospital to the home in their illnesses, but I am convinced that this is confined to that part of the population that pays income taxes, say about 4 per cent. The other patients are going to hospitals for so much of their medical service because we are sending them there; because men in practice, who can do as they please with their patients, find it more convenient to send them there; and because we are not producing doctors to do general practice. That last of all things is what is needed to make sickness less expensive, to enable the patients to pay their own way, and to put practice under the control of physicians rather than of institutions.

Against all of these things that are improper invasions of the practice of medicine we really have very valuable weapons in the traditions of society and the sentiment of medicine, but to use these we have to present a united front: not a front that represents a unanimity of opinion of the profession, for that is impossible, but one that represents a strong majority sentiment, which I think unquestionably exists. I believe we should avail ourselves of this more effectively than we do. In order to be effective, our positions must be valid and not based on petty interests. But if they are put on this plane we could, under wise leadership, go far in offsetting these movements that demoralize the profession. What we need is to formulate a wise policy in regard to these things, to be consistently, if not aggressively, carried out.

But if practice must be done by organizations, can we take a directing part in their management? The organizations which are doing this are hospitals, pay-clinics, ambulatory clinics—usually connected with medical schools—and corporations organized for the practice of medicine. Can we hope to take over an influential or directing part in these corporations? Or have we any other organizations to offer in their place? Fortunately, we have some medical activities directed by physicians now that suggest answers to these questions.

MEDICAL REPRESENTATION ON HOSPITAL BOARDS

It is now the accepted policy that physicians shall not be members of the governing boards of hospitals. In the American Hospital Association, for example, there is a strong feeling that no physician member of the staff should be on the board of directors of a hospital. You see physicians as directors of every other sort of organization from great corporations to churches. Why they should only be incompetent to serve as directors of institutions whose specific business is their own field is a curious anomaly. It is the more curious because the members of hospital boards are not usually distinguished for familiarity with or efficiency in the field of their activities. The members as a rule are primarily chosen because of their possibilities as contributors or money getters. The executive of the board, thus, is usually an elderly gentleman of money who has retired and is in this field as an amateur who wants some altruistic occupation. Often the lay hospital superintendent—sometimes the superintendent of nurses—actually runs the institution, including to a considerable extent its medical affairs. In such a situation as this the best the medical staff can do is to have an advisory medical board, or something of that sort, that can take its problems to the directors, but has no direct part in their handling. This makes the physician dependent where he ought to be independent. It results, indeed, in putting an inferior estimate on him, at least in hospital management, thus still further increasing his dependence. The older the hospital, the more exaggerated this situation becomes. It is more marked in the older hospitals than the others in our younger cities such as Chicago and St. Louis. It is still more marked in the older hospitals of older cities, until the situation has become such that the medical staff position in some of these is as much one of subserviency as if the physicians had to punch a clock. It is not a situation that is conducive to the best interests of medicine or of the profession.

Of course, I know the reasons that are urged for this policy. They are based largely on the assumed jealousy of medical men for each other. In my experience they are no more jealous of each other, or of their prerogatives, than other men, retired capitalists or hospital superintendents, for example. It is my long experience in several governing boards composed of physicians that they are quite the opposite, and that as a rule they are anxious to be fair and just to their colleagues. In my opinion, we should make it our policy to offer able and fair physicians for directors of our hospitals and try through them to obtain a direct part in the hospitals' management. I know this view is heresy, but I am none the less convinced of its soundness for the profession and for hospitals.

MEDICAL CONTROL OF HOSPITALS

Indeed, I go further in this hospital matter and believe it is good policy, for the profession and the public, that medical groups should develop their own hospitals. I know it is said that hospitals cannot be made self-supporting, but that is a situation with which we should not be satisfied. No essential service to the community is in proper position for which only the fortunate upper tenth is able to pay. If the ordinary man, who pays his way through life, and in the aggregate really constitutes society, is not able to pay for the hospital service that we are offering, that service is out of touch with social need and not meeting its social responsibilities. The fact is, people will tax themselves so desperately for the prevention and cure of disease, and the state and philanthropy show their continued willingness to pour such enormous sums of money into enterprises of this kind, that sight has been lost of the necessity of living up to sound economic principles in medicine. Perhaps physicians, if they would put their heads to this problem of hospitals, might do something toward correcting this situation; for men who are in position to know the essentials of good service for the sick are those most competent to cut off the expensive nonessentials.

That hospitals for pay patients can be made self-sustaining, even under the present conditions of outside standardization, is shown by the fact that there are numerous large hospitals, under the management of physicians, literally or in fact, that are now doing it, some of them even with profit. They live without endowment and without the aid of outside charity, except for the care of indigent patients, and they are performing well the hospital service for their people. There are also many hospitals which are paying their way in the smaller places in the country that have been established and are controlled—usually owned—by physicians, who have built them because there was no one else to do it. It is true that many of these hospitals are not self-sustaining except through the aid of the income of the physicians who practice in them; but, even so, it is a sound economic situation for the physician. Our offices are not self-sustaining except as we practice in them, and these hospitals bear the same relation to the physicians practicing in them that our offices do to our office practice. They are the shops in which they do their work. It is good business to have such shops. The better they are made, the better it is for the community which they serve and the sounder is the position of the men who have thus placed themselves so that they can be independent in their work.

OTHER ORGANIZATIONS OF PHYSICIANS FOR PRACTICE

The other active development of medical practice which is a positive contribution to the situation of medical business is the organizations of medical men for the conduct of medical practice. An illustration of a form of this which has developed in the last twenty years is the diagnostic laboratory. The large hospitals have taken this over, to their large profit. Twenty years ago the individual pathologist or bacteriologist depended to a considerable extent for his income on material referred to him by physicians. That work for him has practically disappeared, and he has readjusted himself to the new condition. These men represent a successful adaptation to new conditions in medical practice. Firms of physicians who are engaged in the industrial practice of medicine illustrate another of these developments. Some firms of this sort have large organizations for looking after great numbers of injuries and accidents coming from many corporations. I heard recently of a physician in a small city who had developed an organization of physicians under which his patients could always be sure to find a physician on hand to answer an emergency call at any hour. I am not citing these illustrations to defend them; some of the features of many of them may be deserving of criticism; but I am citing them as illustrations of developments that have come because they meet social and economic needs and that as such should have our attention. I am also using them as illustrations of cooperative organizations developed by physicians for the practice of medicine. In the legal profession, all big law firms furnish in essence an illustration of this sort of professional combinations.

Organizations of medical men somewhat after the pattern of these, which are prepared to take care of special kinds of disease or of practice in general, may be the outcome of the competition offered by pay clinics conducted by hospitals and teaching institutions, or of such institutions as the Public Health Institute of Chicago, organized for the practice of medicine. It is the introduction of combinations into the practice of medicine. It is not perhaps what we would choose, but it may be a necessary readjustment in the changing conditions of economic life. Such institutions conducted by physicians would at least have the advantage of keeping the control of medical practice among us.

GROUP PRACTICE

The group practice clinic is the most significant development in the business of the practice of medicine. These clinics are, I believe, economically and scientifically sound. Economically they are sound for many reasons. They pool overhead expenses; they provide extensive equipment but prevent the duplication of it that is necessary where physicians practice alone; they allow for cheaper purchases of supplies in quantities, and for things of the sort that always mark the difference between large organizations and small ones. Thus, they tend to business efficiency. Professionally and scientifically they bring together as collaborators groups of men of special knowledge in various fields and make them readily available. There is stimulation in such contacts, and scientific competition. They have the power and influence of combinations. These are things that give these organizations vitality.

Group clinics are the chief positive contribution of physicians in the field of corporate medical practice. They furnish illustrations both of organizations for the treatment of ambulatory patients and of hospitals controlled by physicians. They are physicians' organizations for the practice of medicine in an efficient and materially successful form and, side by side and, usually, as the result of them, are hospitals, in fact if not in form, developed and controlled by physicians.

These organizations indicate how successfully physicians can manage not only their own especial business of practicing medicine, but the business of hospitals and of institutions of research. They are organizations that carry on great businesses of medical service and from the rewards of that, without the help of outside philanthropy, they are able to rival endowed institutions in scientific work. They have, indeed, a vigor which is peculiarly their own, that arises in the fact that they are paying their own way. Vitality and energy are engendered because salvation is dependent on their own reputation and their own earning capacity. They are offering to the profession and to the community an important object lesson in medical business.

These organizations thus far have developed chiefly in connection with surgical practice, because of the excessive prominence and pecuniary advantages of that practice, but not all of them have developed around surgeons and they are becoming more and more centers of other medical activities. They offer similar economic and professional advantages for practice in the other fields of medicine and they already indicate their possibilities in these other fields.

Let me say again that these combinations for medical practice may not be to our liking. They represent the introduction of corporate methods into a profession whose traditions are individual, but they present the advantages that the corporation has as compared with the individual in many kinds of service. The point I would make in connection with them is that they indicate to us methods of corporate practice conducted by ourselves. If we must have the corporate practice of medicine, we should conduct it. Then we can insist, as we should, that it be conducted according to the rules of conduct that apply to the individual practitioner and that long experience has shown to be wise.

Of course, the objection is always raised, against physicians running their own business in any form, that physicians are notoriously incompetent business men. We are incompetent in business in the sense that men in every group are incompetent in business who do not bring to their business affairs their interest and their intelligence. It is true, we do not know the details and technic of business in the usual acceptance of the term, because that is not our business; but no more does the merchant or the manufacturer or the broker know the other man's business. But where he is a success, he knows his own. That is what we should do. It would not be a consuming occupation for us; for example, it would probably be a saving of time if each of us made it a practice to look after his own business of practicing medicine and left the details of his outside investments to responsible experts. As a matter of fact, the trouble with us is, we have an inferiority complex about our business incapacity, for which I have found no sound reason in my own experience of doctors. Wherever one goes one finds physicians who have shown first class capacity in business. They are successful men of affairs. Innumerable illustrations of physicians could be given who have capacity of high order in large business. We have no less familiarity with the management of business than college professors, and that they can on occasions turn their attention successfully to large affairs is shown by most of our college presidents, who are certainly in the business of executives. In fact, some of the outstanding examples of them have been recruited from the medical profession. If we are not below the average of general intelligence of other business and professional callings, we can attend to our own affairs if we make the effort; and we should make the effort.

I have tried to bring out in the foregoing the sort of things I have in mind in referring to the business of the practice of medicine. It is a proper interest of ours, that

suffers from the fact that, through fear of being regarded as commercial, we are timid about discussing. There is no good ground for this. It would increase our usefulness as public servants and redound to our own welfare if we gave it more consideration. And it is necessary for the solution of many of the difficulties in medical service that confront us.

7 West Madison Street.

Book Notices

A BOOK FOR US DIABETICS AND OUR DOCTORS. By Don H. Duffie, M.D. Cloth. Price, $1.50. Pp. 80, with illustrations. South Lancaster, Mass.: The Author, 1928.

There are only about seventy-five pages of reading matter in this little book. These pages are full of wisdom about diabetes and how it should be handled by the diabetic patient. There are no wasted words and no excess details regarding any of the main and important facts of this interesting disease. The book is decidedly practical. It is written by a practitioner in a small town and should be of the greatest value to practitioners or patients living in isolated communities. At first glance one might object to the so-called basic starting menu, but after carefully reading it through and analyzing it, one finds that it actually offers a practical means of dieting the diabetic patient. It is obviously impossible to advise "a lot of mysterious arithmetic in figuring out the patient's diet," for which reason this little volume is of particular value. The illustrations, like the rest of the book, are made by the author and are to the point.

THE INDIAN MATERIA MEDICA. Edited by K. M. Nadkarni. Leather. Price, Sh. 18/net. Pp. 1418. Bombay: K. M. Nadkarni, 1927.

Patriotism for Hindu medicine is the motive inspiring this, perhaps the most exhaustive, treatise on Hindu materia medica yet available. Its chief animus is *Swadeshism*, a boycott of foreign goods. The author was impelled toward the preparation of the book by "the deep sense of the glaring evidence of the chronic grinding poverty all around us and the annual loss of nearly two scores of rupees to India for importing costly foreign medicines." The author believes that, "if a medical man has a good knowledge of bazaar medicines, he can treat many minor maladies and remove much suffering at very little cost. . . . And what a saving an intelligent householder will make in his expense, time, trouble and anxiety, if he will have a little more of self-reliance and a little less of the feeling of helplessness in cases of minor complaints of everyday occurrence, and *with discretion* will make use of the numerous, simple, harmless, home remedies given in this book! It is a well known fact that pure fresh vegetable drugs are more powerful in their efficacy than those which have undergone various laboratory processes for their preservation and preparation according to western methods. Moreover, the extraction of alkaloids by the use of alcohol, etc., is said by Ayurvedists to destroy the actual and intrinsic therapeutic activities of the drugs. . . . To Indians, Indian drugs naturally suit better and are safer than European medicines, which are prepared mainly to suit European constitutions built up on their peculiar food, climate, habits and manners of life. This may perhaps be the reason why, in numerous cases where allopathic treatment fails, indigenous systems of medicine succeed."

The author has a profound veneration for the Ayurveda, the underlying theory of which "begins where modern physiology ends, for it endeavors to explain all the physiological processes as well as the principles which guide them." It is certainly unfortunate that our modern physiologists are so headstrong as to neglect the study of the mysteries of the Ayurveda, for "it affords sensible explanation of certain otherwise inexplicable facts in the causation and amelioration of diseases and their symptoms. It can also guide you in understanding the laws of general therapeutics which it would be much to the advantage of any medical man to learn."

It is no wonder, then, that a mere Western mind saturated with the lore of science, that accepts proved facts and rejects all else, is bewildered by a book written with the bias of patriotism and tradition. To quote what would seem to such a one absurdities would fill pages almost as numerous as the book itself contains. Indeed, for one with a penchant for medical humor, this book would be a happy hunting ground; for instance, the recommendation of taking castor oil as a purgative with cow's urine, or the statement made regarding sugar, "In hematuria it is very useful when applied locally to the pubes."

The book contains, of course, many scientific facts and sensible recommendations well known to Western scholars; but these are so interlarded with stuff of other kind that a study of this book by one who is uninitiated in medicine would be most likely to be misleading, while it is a sore trial to one familiar with medical facts. It is only with the feeling that perhaps hidden in all this chaff there might be some real grains of truth that one might recommend it to libraries of medical schools and most especially to departments of pharmacology. Should the latter lack for research problems, they might find a superabundance of them in this Indian materia medica.

ANIMAL BIOLOGY. By J. B. S. Haldane, and Julian Huxley. Cloth. Price, $2.50. Pp. 344, with 122 illustrations. New York: Oxford University Press, 1927.

This should be useful as a textbook in high schools and as a reference book in colleges. As might be expected with such authorship, it has a strong physiologic trend. Evolution and genetics have relatively large recognition also. The book does not include the morphologic details which a textbook for a premedical course in biology should have unless the course is brief and is followed by good courses in comparative anatomy and elementary microscopic anatomy. The style is interesting and clear.

THE PROTECTION OF MOTHERHOOD. By Dame Janet M. Campbell, D.B.E., M.D., M.S., Senior Medical Officer for Maternity and Child Welfare, Ministry of Health. Reports on Public Health and Medical Subjects No. 48. Paper. Price, 9d. net. Pp. 87. London: His Majesty's Stationery Office, 1927.

This booklet is the forty-eighth in the series published on public health and medical subjects by the ministry of health and is a supplement to Dame Campbell's report on maternal mortality, published in 1924. The present monograph most adequately reviews the existing position of this problem in England and Wales, discusses the perplexing question of puerperal infection, and cites a number of recent serious outbreaks; finally, there is given in detail what the author considers to be necessary provisions for a complete maternity service. At the end of the report is an excellent review on the Bacteriology of Puerperal Pyrexia by Arthur Eastwood. The report brings out the fact that in England and Wales one in 250 mothers dies during childbirth and this incidence is no less than it was many years ago. Furthermore, there has been no reduction in morbidity during the last few years. The author emphasizes that improvement will result from research to establish the cause and methods of prevention and treatment of puerperal infection, improved training of medical students and midwives, and education of the public in the importance of maternity care, because Englishwomen are not yet accustomed to prenatal care or hospital service for confinement. The booklet is well written and will undoubtedly do much to bring about improvement in obstetrics in England and Wales.

ATLAS OF HUMAN ANATOMY. By Dr. Johannes Sobotta, Professor of Anatomy and Director of the Anatomical Institute in Bonn. Volume I. The Bones, Ligaments, Joints, Regions and Muscles of the Human Body. Volume II. The Viscera Including the Heart. Volume III. The Nervous and Blood Vascular Systems and the Sense Organs of the Human Body with an Appendix on the Lymphatic System. Second English edition from the sixth German edition edited by J. Playfair McMurrich, Professor of Anatomy in the University of Toronto. Cloth. Price, $6 per volume or $15 per set net. Pp. 785, with 925 illustrations. New York: G. E. Stechert & Company, 1928.

One who hopes to be retained in the fellowship of scientific men must be distrustful of enthusiasms. Nevertheless, if fingers itch at the thought of dissection it is difficult not to wax enthusiastic over this edition of Sobotta, edited by McMurrich,

Everything is here that should be found in an atlas of human anatomy, and the craftsmanship is excellent—draftsmanship, coloring and printing. Perhaps no part of the illustrative work is more masterly than the treatment of fascia. In plates 2, 3 and 4, for instance, the tough fibrous layers are actually waiting to be picked up in the forceps. One envies the anatomist who made this masterpiece his life work.

GEBURTSHILFLICH-GYNÄKOLOGISCHE PROPÄDEUTIK. Eine theoretische und praktische Einführung in die Klinik und in die Untersuchungskurse. Von Prof. Dr. Oscar Polano, Vorstand der gynäkologischen Universitäts-Poliklinik München. Fifth edition. Cloth. Price, 12.60 marks. Pp. 224, with 110 illustrations. Leipzig: Curt Kabitzsch, 1928.

Polano's epitome of obstetric and gynecologic diagnostic methods is an excellent guide to students and practitioners. This addition includes new material that has appeared in the literature of the past five years and is enhanced by a number of new illustrations, all of which are well chosen and splendidly executed.

CARDIAC ARRHYTHMIAS. Clinical Features and Mechanism of the Irregular Heart. By Irving R. Roth, M.D., Chief, Children's Cardiac Clinic, Mt. Sinai Hospital. Introduction by Emanuel Libman, M.D., Clinical Professor of Medicine, Columbia University. Cloth. Price $7.50. Pp. 210, with 85 illustrations. New York: Paul H. Hoeber, Inc., 1928.

The author has succeeded in giving a concise and definite exposition of the broad subject of the cardiac arrythmias in a volume of relatively small size. He has succeeded in a measure beyond any other writer in presenting to beginning students an extremely palatable introduction to the subject of electrocardiography. This has been accomplished by the ingenious use of simple diagrams, some of which are striking and novel. For this reason the volume also merits the attention of those fully conversant with the subject matter and for whom it might prove valuable in their didactic work. The presentation of extrasystolic arrythmia, and flutter and fibrillation on the basis of circus movement is rather unique, and it is particularly these chapters that highly recommend the volume. On the whole, this is a beautifully illustrated handbook written in a simple, clear style and designed, as the author states, for the uninitiated in the electrocardiographic method.

TRAVAUX ET MÉMOIRES. Tome II: Amyotrophie Charcot Marie. Hérédo-ataxie cérébelleuse. Les lacunaires. Travaus divers sur l'encéphale. Infections et maladies nerveuses. Maladies de la moelle varia. Par Pierre Marie. Paper. Price, 30 francs. Pp. 393, with illustrations. Paris: Masson & Cie, 1928.

These collected papers of Pierre Marie are of great merit in the eyes of those who enjoy the work of this great neurologist as a source of instruction. In this volume are his famous papers, such as those concerning amyotrophic lateral sclerosis, cerebellar ataxy, status desintegratus, and localization in the capsula interna. Among others there are a number of less read ones, including those dealing with exophthalmic goiter and diphtheric palsy. Whichever paper one reads, one is always completely absorbed in it. Students should be taught how much more valuable it is to read original articles like these, which range on the same level with those of Claude Bernard and which will be alive after a period of time which will mean oblivion for many of our contemporary publications. These papers also demonstrate on every page how insolubly connected clinical knowledge and judgment must be with the interest for necropsies and—not to forget our own American conditions—the possibilities of obtaining them.

CHRONIC PULMONARY CATARRH. By Duncan Leys, M.B., M.R.C.P., John and Temple Research Fellow in Diseases of Children, St. Thomas's Hospital. Cloth. Price, 7/6 net. Pp. 130, with 4 illustrations. London: H. K. Lewis & Company, Ltd., 1927.

The author states that the book is the result of an endeavor to trace the medical histories of patients presenting the condition known as "fibroid lung" or "chronic pneumonia." The cases studied have been of four kinds: advanced fibrosis and bronchiectasis; recurrent bronchitis and unresolved pneumonia; acute bronchopneumonia; bronchopneumonia, the result of measles and pertussis, studied some years after. This author goes into the subject quite thoroughly as to pathology, causation, familial incidence, history and treatment. Eighteen pages are devoted to the general history of the disease. A voluminous appendix is enlightening.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

LICHTBIOLOGIE UND LICHTTHERAPIE. Eine Vortragsreihe veranstaltet gelegentlich der Gründungstagung der Gesellschaft für Lichtforschung September 1927 in Hamburg. Herausgegeben von Prof. Dr. Hans Meyer, Vorsitzender der Gesellschaft für Lichtforschung. Paper. Price, 37.50 marks. Pp. 441, with 193 illustrations. Berlin: Urban & Schwarzenberg, 1928.

Transactions of the German Society for the Study of Light with many excellent papers.

UEBER TECHNIK UND EFFEKTE DER SYMPATHIKODIAPHTHERESE (CHEMISCHEN SYMPATHIKUSAUSSCHEIDUNG) AN DEN KEIMDRÜSENARTERIEN. Vortrag, gehalten am 30. März 1928 im Verein Deutscher Ärzte in Prag, in erweiterter Form. Für Ärzte und Biologen. Von Dr. Karl Doppler, Assistent der Abteilung. Paper. Price, 2 marks. Pp. 40. Berlin: Urban & Schwarzenberg, 1928.

Effects and uses of sympathectomy.

CHIRURGISCHE OPERATIONSLEHRE. Ein Lehrbuch für Studierende und Ärzte. Von Professor Dr. O. Kleinschmidt, Direktor der chirurgischen Abteilung des städtischen Krankenhauses in Wiesbaden. Cloth. Price, 57 marks. Pp. 1269, with 705 illustrations. Berlin: Julius Springer, 1927.

Beautifully printed and well illustrated textbook of surgery replete with varied technics.

PRINCIPES SCIENTIFIQUES DE RÉCUPÉRATION FONCTIONNELLE DES PARALYTIQUES. Par le Docteur Gabriel Bidou. Préface du Professeur Georges Guillain. Paper. Price, 20 francs. Pp. 141, with 45 illustrations. Paris: Le Livre Pour Tous, 1927.

Appliances for treatment of paralyses.

INNERE SEKRETION; IHRE PHYSIOLOGIE, PATHOLOGIE UND KLINIK. Von Dr. Julius Bauer. Paper. Price, 36 marks. Pp. 479, with 56 illustrations. Berlin: Julius Springer, 1927.

Another German elucidation of what is known and suspected concerning the glands of internal secretion.

FILTERABLE VIRUSES. Edited by Thomas M. Rivers. Cloth. Price, $7.50. Pp. 428, with illustrations. Baltimore: Williams & Wilkins Company, 1928.

Symposium presenting present knowledge of viruses, well edited, authoritative, nicely printed.

CREATINE AND CREATININE. By Andrew Hunter, M.A., M.B., F.R.S., Professor of Biochemistry in the University of Toronto. Boards. Price, $5. Pp. 281. New York: Longmans, Green & Company, Ltd., 1928.

Extensive monograph surveying present knowledge of creatine and a complete bibliography.

LIVING WITH OUR CHILDREN. By Lillian M. Gilbreth. Cloth. Price, $2.50. Pp. 309. New York: W. W. Norton & Company, Inc., 1928.

Guide to child's relationships with family, set forth in a chatty manner.

SCRITTI BIOLOGICI. Raccolti da Luigi Castaldi. Paper. Price, 45 lire. Pp. 350, with illustrations. Siena: S. Bernardino, 1928.

Collected works of an Italian biologist.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume IX: Communicable and Other Diseases. By Lieut. Col. Joseph F. Siler, M. C., U. S. Army. Prepared under the direction of Maj. Gen. M. W. Ireland, the Surgeon General. Cloth. Price, $2. Pp. 628, with 53 charts. Washington, D. C.: Supt. of Doc., Government Printing Office, 1928.

KEY-CATALOGUE ON INSECTS OF IMPORTANCE IN PUBLIC HEALTH. By C. W. Stiles, and Albert Hassall. Treasury Dept., United States Public Health Service. Hygienic Laboratory Bulletin No. 150. Paper. Price, 20 cents. Pp. 291-408. Washington, D. C.: Supt. of Doc., Government Printing Office, 1928.

STUDIES ON OXIDATION-REDUCTION. I-X. By the Staff of the Division of Chemistry, Hygienic Laboratory, United States Public Health Service. Hygienic Laboratory Bulletin No. 151. Paper. Price, 50 cents. Pp. 363, with illustrations. Washington, D. C.: Supt. of Doc., Government Printing Office, 1928.

MATERNAL MORTALITY AND STILLBIRTHS IN NEW YORK STATE: 1915-1925. By J. V. DePorte, Ph.D., Director, Division of Vital Statistics. Paper. Pp. 69, with illustrations. New York: New York State Department of Health, 1928.

Medicolegal

Proof Required to Hold Former Minor for Services

(Stetson v. Russell et al. (N. Y.), 225 N. Y. Supp. 139)

The Supreme Court of New York, appellate term, first department, in reversing a judgment which was rendered for the plaintiff, says that this action was brought against a father and his son to recover the reasonable value of medical services claimed to have been rendered by the plaintiff to the son in operations for blood transfusion on him. The evidence showed that at the time of the alleged operations the son was a minor or infant 20 years of age residing with his father, on whom the primary obligation for the payment of such services was imposed by law. The father was never served in this action, and the case proceeded solely against the son, who was 21 years of age at the time of the commencement of the action. There was no evidence of any ratification by the son after he became of age. In order to fasten any liability on him for the alleged services rendered to him in his infancy, it was absolutely necessary for the plaintiff to prove, in the absence of any ratification by the infant when he became of age, not only that the services so rendered were necessaries furnished to the infant, but that the father was not financially able to discharge the obligation for such services, or failed to discharge his duty in furnishing medical services, or that he was unwilling to furnish such services, or would not pay for them. This the plaintiff failed to do.

Incorrect Diagnosis Followed by Correct Treatment

(Trask v. Dunnigan (Mo.), 299 S. W. R. 116)

The St. Louis (Mo.) Court of Appeals, in affirming a judgment for the defendant in this action for alleged malpractice, says that the petition recited that the plaintiff had sustained a fracture of his left forearm and left hand, but that the defendant negligently diagnosed the injuries as mere sprains and strains. So far as the issue made by the charge that the defendant had negligently and unskilfully diagnosed the nature and extent of the plaintiff's injuries was concerned, there was no doubt that there was substantial evidence that the defendant did, in fact, make an incorrect diagnosis. Such fact, however, standing alone, would afford the plaintiff no basis for the relief he asked, for the reason that the test of the plaintiff's cause of action was negligence, and the burden rested on him, not only to prove that the defendant made a mistaken diagnosis, but that such mistake was a negligent one; that is, that the defendant did not use reasonable care and diligence in the exercise of his professional skill and in the application of his learning.

A slight disagreement has been noted among the authorities, usually the result of loose language employed, as to the standard of skill and care demanded of a physician or surgeon in the practice of his profession. The true rule, and the one supported by the greater weight of authority, is that he is required to possess and exercise that degree of skill and learning ordinarily possessed and exercised by the members of his profession in good standing, practicing in similar localities. Thus the legal effect to be attributed to the diagnosis made by the defendant must be determined in the light of the degree of skill and care ordinarily to be expected of a physician engaged in the practice of his profession in a small rural community, such as the city in which he practiced. In other words, the most to which the plaintiff was entitled was such a careful and thorough examination as all the surrounding circumstances, including the means afforded the defendant therefor, would permit. Moreover, the mistaken diagnosis in a case of this character, unless followed by improper treatment (an element not specifically pleaded), would afford no cause of action.

The most favorable view that could be taken of the evidence, as tending to support the plaintiff's case, showed that a more accurate diagnosis could have been made only if a roentgen-ray apparatus had been employed, in which event it was within the realm of possibility that by manipulation a better result could have been obtained. There was not one word in the record to indicate that the plaintiff did not receive the proper medical treatment for a fracture, barring the nonuse of the roentgen ray. Thus it appeared that the plaintiff's case must stand or fall on the question of whether the defendant should have procured roentgen-ray pictures before attempting to exercise his best judgment otherwise as to what the plaintiff's exact injury was. On this particular issue, the plaintiff's own evidence conclusively disclosed that, in communities such as the city in which the defendant practiced, it was ordinarily impossible for physicians to obtain roentgen-ray pictures; and, this being true, it was at once apparent that no imputation of negligence might be fastened on the defendant because of his failure to exercise a higher degree of care than would ordinarily have been exercised by other physicians practicing in similar localities. There was no showing that the defendant failed to use his best judgment or that any reasonably careful physician, practicing under similar conditions and with similar means, would have done differently than he did. It followed, therefore, in the absence of facts from which negligence could have been found or inferred, that a peremptory instruction in the nature of a demurrer to all the evidence was properly given.

Evidence that Testator was Absent-Minded Ignored

(Reeves et al. v. Sroade (Kan.), 260 Pac. R. 609)

The Supreme Court of Kansas, in affirming a judgment which sustained a will against an attack based on the testator's alleged incapacity, says that the plaintiffs assigned error in the trial court's striking out the answer of a witness that the testator was absent-minded. The fact itself was of little or no probative value on testamentary capacity. Philosophers and other abstruse reasoners are prone to be absent-minded. That arises from their intellectual power to disregard external trivialities and concentrate their attention on things worth thinking about.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 11-15. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Minneapolis, June 11-12. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.

American Association for the Study of Goiter, Denver, June 18-20. Dr. K. W. Kinard, Bryant Building, Kansas City, Mo., Secretary.

American Association of Industrial Physicians and Surgeons, Rochester-Minneapolis, June 11-12. Dr. V. S. Cheney, 5446 S. Halsted Street, Chicago, Acting Secretary.

American Federation of Organizations for the Hard of Hearing, St. Louis, June 18-22. Miss Betty C. Wright, 1601, 35th Street, N. W., Washington, D. C., Secretary.

American Heart Association, Minneapolis, June 12. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Physiotherapy Association, Minneapolis, June 11-12. Miss I. M. Hazenhyer, 2900 Mildred Avenue, Chicago, Secretary.

American Proctologic Society, Rochester-Minneapolis, June 9-12. Dr. W. A. Fansler, 531 LaSalle Building, Minneapolis, Secretary.

American Society of Clinical Pathologists, Minneapolis, June 8-11. Dr. W. T. Burdick, Republic Building, Denver, Secretary.

American Therapeutic Society, Minneapolis, June 9-11. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

Associated Anesthetists of the United States and Canada, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Association for the Study of Internal Secretions, Minneapolis, June 12. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.

Association of American Teachers of the Diseases of Children, Minneapolis, June 12. Dr. Paul W. Emerson, 86 Bay State Road, Boston, Secretary.

International Anesthesia Research Society, Minneapolis, June 11-12. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Maine Medical Association, Belgrade Lakes, June 18-20. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Medical Women's National Association, Minneapolis, June 11-12. Dr. Helen L. Palliser, 251 Church Street, Poughkeepsie, N. Y., Secretary.

Minnesota State Medical Association, Minneapolis, June 10-12. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

National Tuberculosis Association, Portland, Ore., June 18-20. Dr. C. J. Hatfield, Henry Phipps Institute, Philadelphia, Secretary.

Pacific Northwest Medical Association, Tacoma, Washington, July 5-7. Dr. Frederick Epplen, 511 Olive Street, Seattle, Secretary.

Utah State Medical Association, Ogden, June 29-30. Dr. M. M. Critchlow, Boston Building, Salt Lake City, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Diseases of Children, Chicago

35: 557-752 (April) 1928

*Chemical Changes Occurring in Body as Result of Certain Diseases: I. Effects of Diarrhea, Vomiting, Dehydration and Oliguria on Acid-Base Balance of Plasma of Infants with Mastoiditis. A. F. Hartmann, St. Louis.—p. 557.
*Mineral Metabolism on High Mineral Diet. A. T. Shohl, A. M. Wakeman and E. Y. Shorr, New Haven, Conn.—p. 576.
Influence of Feeding on Certain Acids in Feces of Infants: I. Comparison of Effects of Breast Milk and Modified Cow's Milk on Excretion of Volatile Acids. J. R. Gerstley and Others, Chicago.—p. 580.
*Infrequency of Severe Rickets in New Orleans and Vicinity. C. T. Williams, New Orleans.—p. 590.
Studies in Scarlet Fever: V. Skin Blanching by Commercial Antitoxins. J. A. Toomey, Cleveland.—p. 607.
Respiratory Metabolism in Infancy and in Childhood: VIII. Marasmus: Basal Metabolism. S. Z. Levine, J. R. Wilson and G. Gottschall, New York.—p. 615.
*Pericarditis as Primary Clinical Manifestation of Tuberculosis in Childhood. M. L. Blatt and J. Greengard, Chicago.—p. 631.
Cholangioma of Mesentery in Child. L. T. Royster, University, Va.—p. 637.
Congenital Nonrotation of Stomach with Eventration. H. M. Greenwald and J. Kaufman, New York.—p. 641.
Epilepsy in Children. H. T. Patrick, Chicago.—p. 653.

Chemical Changes in Blood in Mastoiditis.—Hartmann presents the results of his study of the chemical changes that occurred in the blood in twenty-seven infants with mastoiditis which resembled clinically "alimentary intoxication." The chemical changes are said to be due to the chief symptoms of the infection: vomiting, diarrhea, dehydration and oliguria. The administration of large amounts of saline solution when diarrhea and oliguria persist is contraindicated because of the marked tendency toward retention of base chloride, which tends to keep base bicarbonate reduced, producing extreme, persistent and often fatal acidosis. Water in large quantity must be given orally as such, or intravenously as dextrose solution. Because of the frequent marked loss of base bicarbonate from the body, intravenous administration of sodium bicarbonate is often indicated, and may at times be a life-saving measure. These important measures (administration of water, dextrose and sodium bicarbonate) must be carried out in conjunction with the local surgical treatment (antrotomy) of the infected focus, and must be continued as long as diarrhea, vomiting, dehydration and acidosis persist.

Mineral Metabolism on High Mineral Diet.—The conclusion is reached by Shohl et al. that a baby on a skimmed milk diet, after the salt constituents are doubled, retains salts in approximately the same proportion, but in twice the amount.

Incidence of Rickets in New Orleans.—Severe rickets is extremely rare in New Orleans and vinicity, but a mild form of the disease prevails to the extent of about 45 per cent among children, aged 3 years or less. The incidence of rickets among the 100 children studied by Williams was 26 per cent. A seasonal variation in the content of inorganic phosphorus in the blood of children is verified. The inorganic phosphorus content of the blood of rachitic children was always low, while the calcium levels in most of these cases were within normal limits. A protective influence in green vegetables against rickets is suggested. The geographic location of New Orleans is considered the factor most responsible for the occurrence of the mild form of rickets in this locality. It is possible that good exposure to the sun of the tenement houses, the low type of buildings, the playground facilities, the type of clothing and the character of the diet influence it somewhat.

Pericarditis as Manifestation of Tuberculosis.—The case reported by Blatt and Greengard illustrates the course which may be followed by an acute tuberculous pericarditis. Prior to the pericarditis, the child apparently had an unrecognizable tracheobronchial tuberculosis. As long as the bacilli remained confined to this region, he did not show marked symptomatology, but as soon as the pericardium was involved, he suddenly became seriously ill. The pericarditis was the initial symptom in this case. As time went on, the infection in the pericardial sac gradually subsided and finally healed, leaving an adhesive pericarditis. As the final stage in the disease, a generalized miliary distribution occurred.

American J. Ophthalmology, Chicago

11: 267-346 (April) 1928

Corneal Suture in Senile Cataract Extraction. A. Elschnig, Prague, Czechoslovakia.—p. 267.
Synchisis Scintillans of Anterior Chamber. R. I. Lloyd, New York.—p. 271.
Syringocystoma of Eyelids. S. S. Greenbaum, Philadelphia.—p. 275.
Atypical Conjunctivitis Tularensis: Case. C. P. Clark, Indianapolis.—p. 280.
Instrument for Muscle Tucking. C. E. G. Shannon and W. J. Harrison, Philadelphia.—p. 285.
Loss of Vitreous. I. Hartshorne, New York.—p. 287.
Closure of Drainage Angle. M. Goldenburg, Chicago.—p. 290.
Displaced Cilium (*a*) in Upper Punctum; (*b*) in Anterior Chamber. S. H. McKee, Montreal.—p. 296.
Cilia in Abnormal Locations (Anterior Chamber, Cornea). L. W. Fox, Philadelphia.—p. 297.
Paralysis of Divergence. E. B. Dunphy, Boston.—p. 298.
Retinal Detachment Soon After Knife Injury. G. H. Poos, St. Louis. p. 299.
Sarcoma of Iris. W. F. Hoffman, Seattle.—p. 301.
Complete Color Blindness in Woman. A. G. Bennett, Buffalo.—p. 302.

American J. Physical Anthropology, Philadelphia

11: 149-422 (Jan.-March) 1928

*Children Running on All Fours. (Cont'd.) A. Hrdlička, Philadelphia.—p. 149.
Skin Pigmentation: Color Top Method of Recording. T. W. Todd, B. Blackwood and H. Beecher, Cleveland.—p. 187.
Dimensions of Hypophysial Fossa in Man. B. S. Pruett, St. Louis.—p. 205.
Ossification of Epiphyseal Cartilages in Hand. M. Hellman, New York.—p. 223.
Correlations Between Cranial Capacity and Cranial Length, Breadth and Height in Greenland Eskimo Craniums. J. Cameron, Halifax, N. S.—p. 259.
Id.: In St. Lawrence Island Eskimo Craniums. John Cameron, Halifax, N. S.—p. 269.
Id.: In Mongol Craniums. J. Cameron, Halifax, N. S.—p. 280.
Id.: In Alaska Indian Craniums. J. Cameron, Halifax, N. S.—p. 290.
Auricular Head Height Technic: Comparison of Bregma, Apex and Tangential Vertex. H. Gray and J. Becker, Chicago.—p. 201.
Auricular Heights in American Girls. H. Gray and M. B. Dodds, Chicago.—p. 311.
Auricular Head Height Technic with Comparison of OH by Todd's Head Spanner and Hrdlička's Compass, Held Up, on 100 Skulls. H. Gray and S. O. L. Robinson, Chicago.—p. 321.
Id.: With Comparison of Heights from Roof and from Floor of Meatus. H. Gray and J. G. Ayres, Chicago.—p. 343.
Id.: With Comparison of OH by Todd's Head Spanner and Hrdlička's Compass Held Up, on Living. H. Gray and W. J. Jacomb, Chicago.—p. 349.
Additional Anthropometric Observations on Choctaw. H. B. Collins, Jr., Washington, D. C.—p. 353.

Children Running on All Fours.—Hrdlička reports thirty additional cases of children running on all fours, bringing the number of recorded cases up to forty-one. The children showing the peculiarity are, as a rule, healthy, strong and active, and, in general, above rather than below the average. There is no indication that the tendency is associated with any constitutional or acquired weakness or defect. The determining causes of the manifestation lie evidently in the child's conformation at this period and in the desire of the healthy and strong child to get about more quickly than by crawling; the basic cause, however, is apparently of atavistic nature, the whole phenomenon being thus one of the order of functional reminiscences of an ancestral condition. Direct heredity plays, it seems, only a secondary rôle in these cases; but the subject needs a thorough further inquiry. Some of the children that run on all fours show sooner or later other functional or somatic peculiarities that deserve scientific attention.

American Journal of Physiology, Baltimore

84: 485-719 (April 1) 1928. Partial Index

*Emptying of Gallbladder in Pregnancy. L. R. Whitaker and W. C. Emerson, Rochester, N. Y.—p. 516.
*Study of Constituents of Sweat, Urine and Blood, Also Gastric Acidity and Other Manifestations Resulting from Sweating: V. Gastric Acidity. G. A. Talbert and I. Rosenberg, University, N. D.—p. 520.
*Conditions of Activity in Endocrine Glands: XXIII. Emotional Polycythemia in Relation to Sympathetic and Medullisuprarenal Action on Spleen. J. J. Izquierdo and W. B. Cannon, Boston.—p. 545.
Elimination of Hemoglobin by Kidney. C. S. Smith, Chicago.—p. 574.
*Study of Constituents of Sweat, Urine and Blood, Also Gastric Acidity and Other Manifestations Resulting from Sweating: VI. Sugar. S. Silvers, W. Forster and G. A. Talbert, University, N. D.—p. 577.
*Treatment of Parathyroidectomized Dogs with Cod Liver Oil. J. C. Brougher, Portland, Ore.—p. 583.
Effects of High Temperature on Heart and Circulation in Intact Animals. S. N. Cheer, Cleveland.—p. 587.
*Histologic Study of Thyroid of Guinea-Pig in Experimental Scurvy. K. D. Harris and E. A. Smith, Ames, Iowa.—p. 599.
*Penetration of Ultraviolet Rays Through Clothing Materials. C. C. Dozier and H. Morgan, Logan, Utah.—p. 603.
*Suprarenal Insufficiency: IV. Influence of Intravenous Injections of Ringer's Solution on Survival Period in Suprarenalectomized Dogs. J. M. Rogoff and G. N. Stewart, Cleveland.—p. 649.
Id.: V. Influence of Suprarenal Extracts on Survival Period of Suprarenalectomized Dogs. J. M. Rogoff and G. N. Stewart, Cleveland.—p. 660.
*Energy Metabolism of Women While Ascending or Descending Stairs. F. G. Benedict and H. S. Parmenter, South Hadley, Mass.—p. 675.

Emptying of Gallbladder in Pregnancy.—Whitaker and Emerson determined experimentally that pregnancy, in itself, does not exert any inhibitory effect on the emptying of the gallbladder.

Effect of Sweating on Gastric Acidity.—Charts are presented by Talbert and Rosenberg which show that in heat sweating there is a more or less sudden decline in the gastric acidity. In control experiments, in which sweating was omitted, a more sustained acidity was present until the end of digestion.

Effect of Emotional Excitement on Endocrines.—Emotional excitement (of a cat in the presence of a dog), for one minute, is quickly followed by a pronounced increase in the red corpuscles of the blood. In fifteen observations made by Izquierdo and Cannon of increases below 30 per cent, the average increase was 20 per cent. If the conditions which usually cause excitement fail to do so, the polycythemia does not occur. Hematocrit and hemoglobin determinations do not show such great increases as does the erythrocyte count; this is explained by a larger percentage of small corpuscles in the blood after excitement. Emotional polycythemia fails to occur after removal of the upper abdominal sympathetic strands and bilateral severance of the splanchnic nerves; indeed, it may be replaced by a lower erythrocyte count. If only the liver among the upper abdominal viscera is left innervated, excitement does not cause any noteworthy hyperglobulia. After section of the nerves to the spleen, excitement for one minute does not produce polycythemia; prolonged excitement with struggle may occasionally increase the erythrocyte count. The suprarenal glands were active. The irregular effect of secreted suprarenin and of injected epinephrine is attributed to variable concentration of the blood in the denervated spleen. Inactivation of the suprarenal medulla does not have any marked influence on emotional polycythemia.

Effect of Sweating on Blood Sugar Concentration.—Silvers et al. show that sweat contains sugar in concentrations ranging from 2.8 to 40 mg. per hundred cubic centimeters. Sweating has a tendency to increase the blood sugar concentration. Sweating has been found to increase the sugar concentration of urine in 90 per cent of the cases.

Treatment of Parathyroidectomized Dogs with Cod Liver Oil.—The addition of cod liver oil to a mixed stock diet for thyroparathyroidectomized dogs delayed the onset of tetany and lessened its severity when it did occur. Brougher found that the serum calcium in control and in test animals dropped to the tetanic level but tended to approximate the normal in from thirty to forty days in the animals given cod liver oil. The point is further brought out that low serum calcium is not always accompanied by tetany. Cod liver oil relieves tetany and benefits parathyroidectomized dogs by improving calcium absorption, mobilizing body calcium, or increasing the ratio of ionized to unionized calcium. Thyroparathyroidectomized animals have been carried through estrus, pregnancy and lactation by the addition of cod liver oil to the stock diet.

Thyroid in Experimental Scurvy.—The results obtained by Harris and Smith are interpreted as an indication of pathologic changes in the thyroid as a consequence of vitamin C deficiency.

Penetration of Ultraviolet Rays Through Clothing.—Dozier and Morgan found that baby flannel, pongee and crêpe de Chine filter out the ultraviolet radiations which are antirachitically potent. The small amount of interspace in the baby flannel and the large percentage of ash in the crêpe de Chine and the pongee may have influenced their nontransmissibility. Artificial silk and meadow lane materials transmit the ultraviolet radiations which are effective in healing rickets. However, these materials have the largest interspace and the smallest percentage of ash. These facts seem to indicate that there are factors other than the fiber which may influence the transmissibility of ultraviolet radiation through clothing material.

Suprarenal Insufficiency.—Proof is given by Rogoff and Stewart that extracts of suprarenal cortex can prolong the period of survival of dogs after suprarenalectomy beyond the maximum seen in control, untreated animals.

Energy Metabolism of Women While Climbing.—For practical purposes, it is considered by Benedict and Parmenter that the average person expends the same amount of energy in walking up one flight of steps (fifteen steps, each 20 cm. high) as he does in walking on a level fifteen times the distance represented by the vertical height of such a staircase, or as he does in descending three such flights of steps. These comparisons may be helpful to the physician in prescribing exercise for patients.

American Journal of Psychiatry, Baltimore

7: 689-861 (March) 1928

Psychiatry and Its Relation to Teaching of Medicine. F. E. Williams, New York.—p. 689.
Significance of Physical Constitution in Relation to Mental Disorder. H. M. Adler and G. J. Mohr, Chicago.—p. 701.
*Neuropsychiatric Aspects of Lipodystrophic Disturbances. L. H. Ziegler and C. T. Prout, Rochester, Minn.—p. 709.
*Two Years' Experience with Malarial Treatment of General Paralysis. M. A. Bahr and W. L. Bruetsch, Indianapolis.—p. 715.
Psychiatry and Social Sciences. W. A. White, Washington, D. C.—p. 729.
Organization in Veterans' Bureau Neuropsychiatric Hospitals. W. M. Dobson, Camp Custer, Mich.—p. 749.
Tentative Criteria of Malignancy in Schizophrenia. H. S. Sullivan, Baltimore.—p. 759.
Application of Statistical Method to Study of Mental Disease. H. B. Elkind and C. R. Doering, Boston.—p. 789.
Survey of Retarded Children in Public Schools of Massachusetts. N. A. Dayton, Boston.—p. 809.

Neuropsychiatric Aspects of Lipodystrophy.—Eighty-two reports of cases of lipodystrophy were reviewed by Ziegler and Prout. Fifteen patients were markedly self-conscious about changes in their appearance. In seventeen cases, the family or friends were worried about the patient's health. In eight, nervous or mental symptoms were rather marked. In forty-three, no abnormality of behavior was noted. There did not seem to be any psychiatric symptom-complex common to lipodystrophy, aside from self-consciousness and the tendency to share in the alarm of friends and relatives. Psychiatric symptoms when present seemed on the whole to be psychoneurotic. No constant neurologic symptoms or signs were observed accompanying lipodystrophy. Although weakness is a usual symptom at one stage or another of lipodystrophy, no general symptom-complex or diseases can be considered closely related to it until more cases are available for study. Nervous symptoms in all cases resulting from self-consciousness over personal appearance are not constantly present. No conclusive evidence has been collected to support the theory that the integrity of the nervous system is affected by the disorder.

Malaria Treatment of General Paralysis.—Bahr and Bruetsch summarize their observations as follows: Of 100 general paralytic patients, treated with malaria, twenty-five

were able to leave the hospital. Twelve patients improved to such a degree that they could be trusted in a useful occupation in the hospital. Forty patients were placed in the unimproved group. In thirty-two patients of the latter group, the disease is progressing. In eight instances the disease has remained stationary. Five patients succumbed during the rigors and eighteen died following the malaria. Serologic changes following malarial treatment occurred in both the improved and the unimproved groups. While there was no parallelism between the degree of clinical and serologic improvement, the percentage of the serologic improvement, particularly as far as the colloidal gold curve was concerned, was higher in the improved groups. The paretic gold curve was reduced in intensity but remained of the paretic type. The conversion of a paretic curve into a true syphilitic one was an exception.

Annals of Otology, Rhinology & Laryng., St. Louis

37: 1-418 (March) 1928

Hanau W. Loeb—Tribute of Friendship. L. Harrison, St. Louis.—p. 3.
Id.: Biographical Sketch. W. E. Sauer, St. Louis.—p. 9.
Lower End of Esophagus. H. P. Mosher, Boston, and G. W. McGregor, Toronto.—p. 12.
Pediatric Aspects of Otolaryngology. M. Marriott, St. Louis.—p. 71.
Pages from Ancient History of Bacterial Infection Through Mucous Membranes. J. Wright, Pleasantville, N. Y.—p. 84.
Degenerative Changes in Lining Membrane of Maxillary Sinus: Relation to Systemic Infection. F. P. Emerson, Boston.—p. 113.
Location of Focus in Optic Nerve Disturbances from Infection. L. E. White, Boston.—p. 128.
Affections of Optic Nerve Due to Sinus Disease. L. A. Coffin, New York.—p. 165.
Ethmoid Problem. R. H. Skillern, Philadelphia.—p. 173.
Studies of Pathologic Tissue Removed from Chronically Infected Nasal and Accessory Sinuses. W. V. Mullin and R. P. Ball, Cleveland.—p. 182.
Why and How of Harelip Correction. V. P. Blair, St. Louis.—p. 196.
Medicine in Retrospect. C. H. Mayo, Rochester, Minn.—p. 206.
Hemorrhage from Throat (Hemoptysis Not of Pulmonary Origin). S. C. Thomson, London.—p. 209.
Laryngeal Tuberculosis. F. R. Spencer, Boulder, Colo.—p. 213.
Hemorrhage into Vocal Cord: Cured by Electrolysis. G. Sluder, St. Louis.—p. 223.
Posterior Cicatricial Stenosis of Larynx. G. Sluder, St. Louis.—p. 225.
Contact Ulcer of Larynx. C. Jackson, Philadelphia.—p. 227.
Aspiration of Blood Into Larynx and Trachea During Tonsillectomy Under Local Anesthesia: Lung Abscess. S. Iglauer, Cincinnati.—p. 231.
Blastomycosis of Larynx. G. B. New, Rochester, Minn.—p. 240.
Vitamins and Dietetics in Relation to Otolaryngology. B. P. Shurly, Detroit.—p. 251.
Management of Malignancies in Otolaryngology. J. C. Beck, Chicago.—p. 263.
Otorhinologic Pathology of Swimming. R. A. Fenton, Portland, Ore.—p. 275.
Audiometer as Device for Determining Quantitatively Hearing Function in Each Ear Separately. G. E. Shambaugh and J. W. Holderman, Chicago.—p. 290.
Otosclerosis, Nonspecific Progressive Deafness: Otitis Insidiosa. W. S. Bryant, New York.—p. 301.
Rationale of Tuning Fork Tests. R. Sonnenschein, Chicago.—p. 309.
Otitic Sepsis. S. J. Kopetzky, New York.—p. 329.
Angioma of Auricle: Case. J. R. Page, New York.—p. 358.
Affections of Labyrinth and Eighth Nerve in Leukemia. J. S. Fraser, Edinburgh.—p. 361.
Monochord in Upper Limit Determinations as Adjunct to Audiometry. C. C. Bunch, Baltimore.—p. 372.
Evolution of Acoustic Method. M. A. Goldstein, St. Louis.—p. 379.
Involvement of Blood Stream in Otitic Disease. H. I. Lillie, Rochester, Minn.—p. 388.
Analysis of Reports of Fatalities Following Use of Local Anesthetics. E. Mayer, New York.—p. 404.

Archives of Dermatology & Syphilology, Chicago

17: 451-584 (April) 1928

Teaching of Dermatosyphilology. U. J. Wile, Ann Arbor, Mich.—p. 451.
Training of Dermatologist and of Syphilologist. H. N. Cole, Cleveland.—p. 457.
Teaching of Dermatology and Syphilology to Medical Undergraduate. J. H. Stokes, Philadelphia.—p. 466.
Urticaria Pigmentosa. J. F. Fraser and M. N. Richter, New York.—p. 489.
*Certain Volatile Oils and Stearoptens as Fungicides. L. B. Kingery and A. Adkisson, Portland, Ore.—p. 499.
Idiopathic Trichoclasia of Jackson-Sabouraud: Case. A. E. Marcoglou, New York.—p. 512.
Epidermophytosis in Europe. C. L. Karrenberg, Hamburg, Germany.—p. 519.

Fungicides: Thymol: Cinnamon: Clove.—Under the conditions of the experiment made by Kingery and Adkisson, the aqueous solutions of thymol, cinnamon and clove, in the order named, have proved superior to the other medicaments included. Their superiority is manifest not only in the experiments determining their approximate killing power, but also in their capacity for restraining the growth of the organisms against which they were used.

Archives of Otolaryngology, Chicago

7: 299-414 (April) 1928

Reconstructive Surgery. J. E. Sheehan, New York.—p. 299.
Hyperesthetic Rhinitis. L. B. Bernheimer, Chicago.—p. 312.
*New Aid in Diagnosis of Mastoiditis. I. Friesner and S. Rosen, New York.—p. 317.
Otosclerosis: Review of Literature. R. R. Montgomery, Long Beach, Calif.—p. 321.
Use of Iodized Oil in Diagnosis of Nasal Sinus Disease: I. H. Anderson, Duluth, Minn.—p. 340.
Sensory Field of Facial Nerve. S. L. Ruskin, New York.—p. 351.
Phenomenon of Subjective Sound Perception for Words and Sentences: Case. R. G. Reaves, Knoxville, Tenn.—p. 359.
Gradenigo's Syndrome: Case. S. B. Forbes, Tampa, Fla.—p. 363.
Tonsils and Adenoids. F. K. Hansel, St. Louis.—p. 365

Diagnosis of Mastoiditis: Calcium in Pus.—Friesner and Rosen examined the pus from discharging mastoid infections for calcium and found that the amount of calcium present ran a close parallel to the clinical observations, indicating the necessity for either operative procedure or expectant treatment. This procedure has helped them make decisions in cases which were clinically doubtful, especially mastoid infections. If it is true that the high calcium content in pus bears a striking parallel to the presence or absence of necrosis of the bone, this test may prove to be an absolute indication for operative intervention.

Illinois Medical Journal, Oak Park

53: 225-296 (April) 1928

Necessary Foundation for Health Movement. J. H. Beard, Urbana.—p. 257.
Hysteria. H. T. Patrick, Chicago.—p. 261.
Arterial Hypertension. R. H. Major, Kansas City, Mo.—p. 267.
Cases of Protein Sensitization. S. J. Taub, Chicago.—p. 272.
Congenital Pyloric Stenosis. A. H. Burr, Dixon.—p. 273.
Serviceable Abdominal Anus. C. J. Drueck, Chicago.—p. 276.
Congenital Atresia of Vagina Due to Imperforate Hymen. M. S. Nelson, Canton.—p. 279.
*Vaccine Therapy in Pneumonia. D. C. Sutton, Chicago.—p. 280.
Prevention and Treatment of Heart Disease in Children. H. E. Irish, Chicago.—p. 283.
Larynx as Gauge of Intrathoracic Pressure. N. Schoolman, Chicago.—p. 288..

Vaccine Therapy of Pneumonia.—Rather striking results are reported by Sutton in the treatment of types of pneumonia with stock vaccines, especially when begun within from forty-eight to seventy-two hours of the onset. No untoward reactions have been observed in thirty-eight cases.

Journal of Bone and Joint Surgery, Boston

10: 187-400 (April) 1928

Hypermobility of First Metatarsal Bone: Interlinking Factor Between Metatarsalgia and Longitudinal Arch Strains. D. J. Morton, New Haven, Conn.—p. 187.
Styloid Epiphysis of Fifth Metatarsal Bone. L. Rogers, Cardiff, Wales.—p. 197.
Primary Osteofibrochondroma of Sacrum. C. F. Eikenbary, Seattle.—p. 200.
*Transference of Crest of Ilium for Flexion Contracture of Hip. J. S. Speed, Memphis, Tenn.—p. 202.
Case of Bilateral Congenital Fusion of Calcanei and Cuboids. G. W. Wagoner, Haverford, Pa.—p. 220.
*Case of Bilateral Fracture of Femora with Unusual Malunion. A. Myers, Charlotte, N. C.—p. 224.
March Foot, with Fracture of Metatarsal Bone: Report of Case. S. E. Goldman, Montreal.—p. 228.
Three Types of Bone Sarcoma with Case Reports. W. A. Clark, Pasadena, Calif.—p. 231.
Case of Compression Fracture of Spine Treated by Traction and Forceful Hyperextension. J. E. M. Thomson, Lincoln, Neb.—p. 240.
Osteogenesis Imperfecta with Multiple Fractures at Birth: Heredity and Blue Sclera. B. J. Hein, Toledo, Ohio.—p. 243.
Range of Active Motion at Hip Joint of Men. J. B. Moore and J. O. Vaughn, Stanford University, Calif.—p. 248.
Loose Bodies Originating from Patella. R. F. Atsatt, Santa Barbara, Calif.—p. 258.
"Artrorise" of Foot. G. Nové-Josserand, Lyon, France.—p. 261.
Treatment of Severe Injuries of Leg by Traction with Steinmann Pin Through Os Calcis. H. E. Conwell, Fairfield, Ala.—p. 268.
Bipartite Carpal Scaphoid. D. M. Faulkner, Richmond, Va.—p. 284.
Backache: Report for Clinical Orthopedic Society. R. W. Billington, Nashville, Tenn., et al., Committee.—p. 290.

*Blood Calcium and Phosphorus in Perthes' Disease. H. A. Durham and T. A. Outland, Shreveport, La.—p. 301.
Incidence of Subastragloid Dislocation of Foot: Case of Inward Type. A. R. Shands, Jr., Washington, D. C.—p. 306.
Dislocation at Outer End of Clavicle. W. B. Carrell, Dallas, Texas.—p. 314.
*Operative Treatment of Scoliosis. B. W. Moffat, New York.—p. 316.
Fractures of Spine. F. R. Fairchild, Woodland, Calif.—p. 322.
*Treatment of Mild Scoliosis by Developing Musculature of Trunk. C. L. Hawk, Iowa City.—p. 330.
Traction Fracture of Small Trochanter of Femur: Apparently Recurrent Case. H. Bailey, Birmingham, England.—p. 336.
Avulsion of Lesser Femoral Trochanter. P. Lewin, Chicago.—p. 339.
Interscapulothoracic Resection for Malignant Tumors of Shoulder Joint Region. B. E. Linberg, Smolensk, Russia.—p. 344.
Congenital Absence of Pectoral Muscles: Case. F. Christopher, Winnetka, Ill.—p. 350.
Fracture of Lower Articular Surface of Tibia in Fracture Dislocation of Ankle. A. P. Mackinnon, Winnipeg, Man.—p. 352.

Transference of Iliac Crest for Flexion Contracture of Hip.—Speed reports on the end-results in 100 cases of flexion contractures of the hip, in which operation was performed by himself and Dr. Willis C. Campbell, according to a modification of the Soutter operation published by Campbell in 1923. It consists in transfering the crest of the ilium, including the anterior superior iliac spine and the muscles attached thereto, to a new position just above the acetabulum. The results from the operation are said to be satisfactory in regard both to the correction of the deformity and to its freedom from postoperative complications. The operation is indicated in cases in which the flexion exceeds 20 degrees.

Fracture of Femora with Malunion.—In Myers' case there had been fractures of the upper thirds of both femora, the lower fragment overriding, and a lateral anastomosis had taken place with the upper fragment in the position of 90 degrees flexion and some external rotation. The upper fragment had flexed and rotated through an arc of 180 degrees. The child no doubt was walking all the time, so that the lower fragment was displaced upward several inches, and partially approximated the rotated upper fragment, resulting in a firm union.

Blood Calcium and Phosphorus in Perthes' Disease.—Durham and Outland suggest that as Perthes' disease is characterized by a diminution of the serum calcium or phosphorus or both, and as the pathologic changes are very similar to those of rickets and osteomalacia, these three conditions may be related etiologically.

Operative Treatment of Scoliosis.—The technic followed by Moffat consists of reflecting a flap composed of periosteum and interspinous ligaments, as in the Hibbs operation, from the spinous processes and laminae on the concave side. The spinous process at each pole of the incision is cleft and the intervening spinous processes are broken down. A straight three-layer graft, of sufficient length to reach from one cleft spinous process to another, is removed from the tibia and inserted according to the Albee technic. The periosteal flap is then sutured around this graft. In this way the graft extends from the beginning to the end of the curve as does a string on a bow. The graft holds the periosteum away from the spine like the ridge-pole of a tent. It also stimulates ossification of the mass of blood and broken bone included by the flap.

Treatment of Mild Scoliosis by Exercise.—Out of a group of 2,100 students examined by Hawk, 1.9 per cent presented a degree of mild scoliosis sufficient to necessitate their transference to corrective classes for treatment. The subject lies on a padded table with the convex curvature of the spine upward and, with the feet held in position, the weight of the entire head, arms, shoulders and chest is raised and lowered, thereby exercising the musculature of the upper side of the entire trunk. It is essential that considerable resistance be employed in the exercise of these muscles, as the trophic stimulus to a muscle is not greater than the demands placed on it. Only a certain degree of fatigue, however, must be allowed, but the author has found that in corrective work of any kind there is very little danger of the individual exerting himself to the point of overfatigue. The student is also instructed to form the habit of standing on one foot—the foot on the side of the convexity—and also, when carrying a weight, such as a sack of books, to carry it in the hand on the side of the concavity, because the shoulder girdle thus puts into action the muscles of the opposite, or convex, side of the trunk.

Journal of Clinical Investigation, Baltimore

5: 393-520 (April 20) 1928

Determination of Circulating Blood Volume with Carbon Monoxide. H. C. Chang and G. A. Harrop, Jr., Baltimore.—p. 393.
*Circulating Blood Volume in Diabetic Acidosis. H. C. Chang, G. A. Harrop, Jr., and B. M. Schaub, Baltimore.—p. 407.
Effect of High Protein Diets on Remaining Kidney of Rats. H. Jackson, Jr., and O. J. Moore, Boston.—p. 415.
*Effect of Antirheumatic Drugs on Arthritis and Immune Body Production in Serum Disease. C. L. Derick, C. H. Hitchcock and H. F. Swift, New York.—p. 427.
*Low Basal Metabolism Following Thyrotoxicosis: I. Temporary Type Without Myxedema, with Especial Reference to Rôle of Iodine Therapy. W. O. Thompson and P. K. Thompson, Boston.—p. 441.
*Id.: II. Permanent Type Without Myxedema. W. O. Thompson and P. K. Thompson, Boston.—p. 471.
Influence of Circulation on Utilization of Carbohydrates. R. Pemberton and F. A. Cajori, Philadelphia.—p. 503.
Gastric Function in Cases of Gastric and Duodenal Ulcer. G. Cheney and A. L. Bloomfield, San Francisco.—p. 511.

Circulating Blood Volume in Diabetic Acidosis.—During diabetic acidosis unaccompanied by any other known complicating factor, a well marked diminution in the circulating blood volume was found by Chang et al. in five patients. This diminution was accompanied by a corresponding increase in the oxygen capacity, the cell volume, and the erythrocyte count of the blood. The reduction in the blood volume was chiefly a reduction in plasma, the cell volume remaining intact. After complete recovery from the acidosis, the blood volume increased to within the normal limits.

Nature of Arthritis and Urticaria in Serum Disease.—The theory is advanced by Derick et al. that urticaria in serum disease is the result of active sensitization of the skin which is not prevented by the drug treatment, while the arthritis is the result of passive sensitization of the joints which is inhibited when the circulating antibodies in the serum are kept to a low concentration by the antirheumatic drugs.

Temporary Low Basal Metabolism Following Thyrotoxicosis.—Twenty-seven cases showing temporary low metabolism (minus 16 to minus 44 per cent) without myxedema, following treatment for thyrotoxicosis, are reported by the Thompsons. The usual time of onset of this low metabolism was within four months of treatment, although in a few cases it was from one to three and one-half years afterward. The usual duration was about one to four months. During the period of low metabolism, most of the patients appeared to be normal persons. It occurred after roentgen-ray therapy and after subtotal and hemithyroidectomy. In five cases there was no iodine therapy during the period of low metabolism: in seven cases, the metabolism both fell and rose with iodine therapy, and in fifteen cases (including two in which neither surgery nor roentgen-ray therapy was employed), the metabolism fell with iodine treatment and rose when it was omitted. In some of the latter cases, from months to years after operation, the metabolism could be made to fluctuate at will from a standard normal to a subnormal level and back again, by the administration and omission of iodine. In some instances, signs and symptoms diagnostic of or suggestive of mild thyrotoxicosis, which were present with a standard normal metabolic rate, disappeared when iodine was given and the metabolism dropped to a subnormal level.

Permanent Low Basal Metabolism Following Thyrotoxicosis.—Twenty-one cases showing permanent low metabolism without myxedema, following recovery from thyrotoxicosis, are reported by the Thompsons. After recovery, the patients were for the most part apparently normal. In the cases in which thyroid therapy was tried, no definite beneficial effect was noted clinically, although the potency, absorption and dosage of the drug were not at fault. Many of these patients required much more thyroid extract to raise the basal metabolism to the standard normal level than do patients with spontaneous myxedema. Moreover, symptoms of thyroid intoxication due to thyroid feeding sometimes occurred while the metabolism was still low. The importance of treating the patient rather than the basal metabolic rate is stressed.

Journal of Immunology, Baltimore

15: 103-190 (March) 1928

Passive Transfer of Skin Reaction to Horse Serum. J. A. Clarke, Jr., and May G. Gallagher, Philadelphia.—p. 103.
Parenteral Denaturization of Foreign Proteins: I. Effect on Sensitizing Power. W. H. Manwaring, H. D. Marino and J. L. Azevedo, Stanford University, Calif.—p. 109.
Effect of Ricinoleated Vaccine of Hemolytic Streptococcus (Scarlet Fever) on Animals. A. Kozlowski, Albany, N. Y.—p. 115.
*Experimental Inoculation of Chickens with Hodgkin's Nodes. E. S. L'Esperance, New York.—p. 123.
Bacteriophage and Phagocytosis: I. Effect on Resistant and Dead Bacteria. G. H. Smith, New Haven, Conn.—p. 125.
Immunologic Significance of Tuberculous Tissue. L. Dienes, Asheville, N. C.—p. 141.
*Sensitization of Tuberculous Guinea-Pigs. L. Dienes, Asheville, N. C. —p. 153.
Zonal Action of Antiserum in Pneumococcus Infections. H. Sobotka and M. Friedlander, New York.—p. 175.

Experimental Hodgkin's Disease.—Five healthy chickens were inoculated intravenously with emulsions of lymph nodes from two cases of clinically and histologically characteristic Hodgkin's disease. All of these chickens developed either a typical or an atypical tuberculosis and in the tissue smears, stained by the Ziehl-Neilsen method, acid-fast granules and rods, extracellular and intracellular, were demonstrated in two of them, and nonacid-fast granules in one of them. L'Esperance feels that these observations justify the conclusion that in these chickens a lesion with the histologic features of Hodgkin's granuloma and comparable to avian tuberculosis has been produced after the inoculation of emulsified Hodgkin's nodes. This may indicate that the etiologic agent in certain forms of Hodgkin's disease is pathogenic for birds or that the avian tubercle bacillus is a factor in producing some of the lesions which are interpreted as Hodgkin's granuloma.

Sensitization of Tuberculous Guinea-Pigs.—The sensitization of four series of tuberculous guinea-pigs with egg white is described by Dienes. There seems to be a connection between the nature of the reaction of the organism to the tuberculous infection and the susceptibility to sensitization. The amount of egg white and the repeated injections have only little influence. However, if an animal did not develop sensitiveness after the first injections, later the injection into the tuberculous lesions would have little effect on the development of sensitiveness. With injections of egg white in a focus created with killed tubercle bacilli, it was possible to produce strong sensitization.

Medical Journal and Record, New York

127: 405-464 (April 18) 1928

Aspiration of Joints in Treatment of Synovitis. H. Milch, New York. —p. 405.
Infant Feeding. H. B. Mills, Philadelphia.—p. 407.
Cisternal (Suboccipital) Puncture as Routine Diagnostic Test in Preference to Lumbar Puncture. L. Spiegel, New York.—p. 411.
Infections of Urinary Tract: Use of Urinary Antiseptics. W. S. Pugh, New York.—p. 414.
Injection Treatment of Varicose Veins. W. Wolf, New York.—p. 416.
Alcohols: Their Practical Utility. W. H. Porter, New York.—p. 418.
Present Method of Educating Dentist in Germany as Distinct from That of Dental Technician. R. Kaldewey, Berlin.—p. 421.
New Simplified Apparatus for Accurate Determination of Patency of Fallopian Tubes, with Self-Retaining Insufflation Cannula. L. M. Pisculli, New York.—p. 424.
Pupillary Findings in General Medical and Surgical Cases. W. C. Menninger, Topeka, Kan.—p. 427.
Genetic Study of Mongolism. I. S. Wile and S. Z. Orgel, New York. —p. 431.
Results of Scientific Treatment of Mental Diseases. J. A. Jackson and H. V. Pike, Danville, Pa.—p. 434.
Motor Tics. C. Pope, Louisville, Ky.—p. 436.
Amnesia from Medicolegal Viewpoint. A. Gordon, Philadelphia.—p. 439.
Gulliver and Medicine. W. R. Riddell, Toronto.—p. 443. (Cont'd.)
Anatomy in Middle Ages. E. Wickersheimer, Strasbourg, France.—p. 446.

New England Journal of Medicine, Boston

198: 477-538 (April 26) 1928

Cancer. R. B. Greenough, Boston.—p. 477.
*Cancer Studies in Massachusetts: 2. Habits, Characteristics and Environment of Individuals With and Without Cancer. H. L. Lombard and C. R. Doering, Boston.—p. 481.
Early Diagnosis of Carcinoma of Rectum. D. F. Jones, Boston.—p. 487.
Carcinoma of Gastro-Intestinal Tract. D. Cheever, Boston.—p. 488.
Malignant Disease of Genito-Urinary Tract. G. G. Smith, Boston.—p. 496.
Cancer Case Histories. E. M. Daland, Boston.—p. 499.
Use of Ultraviolet Rays in Treatment with Special Reference to Children. E. T. Wyman, Boston.—p. 510.
Use and Abuse of Physical Therapeutics. F. Granger, Boston.—p. 514.

Cancer Studies.—According to Lombard and Doering, bad teeth in males were more common among the cancer group than among the controls. This applied to cancer in general and was not limited to cancer of the buccal cavity. Heavy smoking was more common in the cancer group than among the controls. Heavy smoking was largely pipe smoking, and was particularly more common in those persons with cancer of the buccal cavity. The figures gave a suggestion of a hereditary predisposition to cancer. The patients with cancer ate less than the controls, but this probably was wholly due to the presence of the disease.

Occupational Therapy and Rehabilitation, Baltimore

7: 75-149 (April) 1928

Greetings from American Hospital Association. J. C. Doane, Philadelphia.—p. 75.
Occupational Therapy: In Veterans' Bureau. B. W. Carr, Washington, D. C.—p. 79.
Id.: In General Hospital. A. M. Coe, Lake City, Fla.—p. 83.
Medical, General and Social Consideration: Historical Reminiscences. G. L. Bellis, Wauwatosa, Wis.—p. 89.
Bedside, Ward, Porch and Shop Methods. I. Grant, Wauwatosa, Wis. —p. 95.
Occupational Therapy at Austen Riggs Foundation. L. K. Lunt, Stockbridge, Mass.—p. 99.
Experiment in Clinical Affiliation for Occupational Therapy Students in Mental Hospital. L. B. Hill, Worcester, Mass.—p. 107.
When Is Occupation Curative? I. F. Sands, Philadelphia.—p. 115.
Occupational Therapy at Friends' Hospital. D. H. Kidder, Frankford, Pa.—p. 123.
Rehabilitation or Reeducation. D. R. Carmer.—p. 129.

Philippine Journal of Science, Manila

35: 119-208 (Feb.) 1928

Local Terminology of Certain Manifestations of Yaws. O. Schöbl, Manila.—p. 127.
Bacteriologic Diagnosis of Bacillary Dysentery. O. Schöbl and R. Villaamil, Manila.—p. 133.

Public Health Reports, Washington, D. C.

43: 861-925 (April 13) 1928

Extent of Rural Health Service in United States, 1924-1928. L. L. Lumsden, Washington, D. C.—p. 861.
Effect of Salt on Sludge Digestion. W. Rudolfs, New Brunswick, N. J. —p. 874.

Texas State Journal of Medicine, Fort Worth

23: 777-846 (April) 1928

Management of Occiput Posterior Position. F. H. Falls, Chicago.—p. 786.
Diseased Cervix. E. Dunlap, Dallas.—p. 790.
Round Ligament Operations: Failures and Successes. J. H. McLean, Fort Worth.—p. 795.
Hysterectomy and Radium in Benign Uterine Affections. J. S. McCelvey, Temple.—p. 798.
So-Called Traumatic Hernia. T. L. Lauderdale, Ranger.—p. 800.
Lymphoid Individual. J. B. Johnson, Galveston.—p. 803.
Epidural Anesthesia for All Abdominal Operations. J. W. Neely, Terrell.—p. 805.

West Virginia Medical Journal, Charleston

24: 209-260 (April) 1928

Mechanisms of Normal Digestion and Their Significance. A. C. Ivy, Chicago.—p. 209.
Interpretation of Anorectal Complaint. C. C. Mechling, Pittsburgh.—p. 212.
Prevention of Shock in Emergency Surgery. E. B. Henson, Charleston. —p. 214.
Diet in Nephritis and in Gallbladder Disease. M. C. Borman, Montgomery.—p. 216.
Variations in Degree of Cancer Malignancy. C. Hodges, Huntington. —p. 219.
Diagnosis of Gallbladder Disease. G. H. Barksdale, Charleston.—p. 223.
Late Syphilis: Cases. B. F. Brown, Huntington.—p. 228.

Wisconsin Medical Journal, Milwaukee

27: 153-198 (April) 1928

Neurologic Diagnosis. L. J. Pollock, Chicago.—p. 153.
Orthopedic Surgery: Methods of Routine Examination. F. J. Gaenslen, Milwaukee.—p. 156.
Examination of Obstetric Patient. C. H. Davis, Milwaukee.—p. 159.
Pediatrics: Methods of Examination. I. A. Abt, Chicago.—p. 160.
Diagnostic Problems. L. M. Warfield, Milwaukee.—p. 165.
Angina, Ludwig's: Case Having Incipiency in Peritonsillar Abscess. R. P. Sproule, Milwaukee.—p. 166.
Has He Chronic Bronchitis? A. A. Pleyte, Milwaukee.—p. 169.
County Medical Society. O. West, Chicago.—p. 183.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 619-650 (April 14) 1928

*Intensive Alkaline Treatment of Gastric and Duodenal Ulcer. H. MacLean.—p. 619.
Debatable Aspects of Surgery of Gastroduodenal Ulceration. C. A. Pannett.—p. 623.
*Type of Tubercle Bacillus Commonly Present in Tuberculous Lesions in Bones and Joints. L. Cobbett.—p. 626.
*Early Detection of Tubercle Bacilli in Sputum. J. Dundas-Grant.—p. 627.
Resistance Factor in Disease: Septicemia and Allied Conditions. J. Ramsay.—p. 628.
Simple Ileocecal Lymphadenitis. C. J. Marshall.—p. 631.
Sarcoma of Stomach. A. Smith.—p. 632.
*Treatment of Rectal Prolapse by Injection. J. A. C. Macewen.—p. 633.
Appendicitis and Hepatic Abscess. W. George.—p. 633.

Alkaline Treatment of Peptic Ulcer.—MacLean insists that sufficient alkali must be given to prevent the presence of free hydrochloric acid in the stomach for some time. The substances generally used to neutralize the acid are sodium bicarbonate, magnesium carbonate or oxide, and calcium carbonate. As sodium bicarbonate is very soluble it is an excellent antacid, but it has the disadvantage that it tends to produce a secondary increased flow of acid. This substance used alone is not satisfactory, but when associated with less soluble bodies, such as magnesium and calcium carbonate, a very satisfactory mixture is obtained. It does not matter very much what combination of alkalis is used. The following powder has given excellent results: sodium bicarbonate, 16 Gm.; heavy magnesium carbonate, 32 Gm.; calcium carbonate, 32 Gm., and bismuth subcarbonate, 8 Gm. It is important to have the bowels fairly free, and usually this mixture, when given as directed, will produce a fairly free bowel movement. Should the movement be too free, some extra bismuth carbonate may be given; if constipation should prove troublesome, extra magnesia magma, in doses sufficient to overcome the difficulty. Bismuth carbonate does not neutralize acid appreciably under ordinary conditions unless the acid is in greater concentration than usual in the stomach. It does, however, seem to possess some beneficial effect in gastric lesions, and is very useful in regulating any diarrhea that may be present. Calcium carbonate is an excellent antacid with little effect on the bowels; magnesium carbonate, on the other hand, tends to act as a mild purgative, but is a good neutralizer of acid. In order that the powder should have its maximum effect the patient should be put on liquid diet for a week or longer according to the severity of the condition and the intensity of the symptoms. Pain usually disappears within forty-eight hours, and the patient feels comfortable. If definite symptoms persist after two or three days' treatment it is probable that the condition is not an ulcer, or that adhesions to adjacent organs are present. The important point in treatment is to make certain that sufficient alkali is given to control gastric acidity. Though it is best to have the patient in bed during the early stages of treatment, this is not always necessary. After some weeks of treatment, the amount of powder given is gradually reduced. Patients with duodenal ulcer should, however, take the powder three times a day for from two to three months. One most important point is to warn the patient that he must resume taking the powder and go on a liquid diet for a few days if any symptoms return. By this means an attack which might otherwise prove troublesome can be cut short. Patients who have had ulcers are sometimes liable to attacks of dyspepsia when they are run down, or after some infection such as influenza, but these attacks do not mean that there is a recurrence of the ulcer.

Tubercle Bacillus of Bone and Joint Lesions.—Cobbett asserts that it can be stated positively that in England and Wales the great majority of cases of bone and joint tuberculosis are caused by bacilli of human type, derived from another case of human tuberculosis, and that they have nothing to do with the cow. Cases of bovine origin do indeed occur, and in very young infants constitute nearly a third of the total, but when all ages are taken together they do not amount to one fifth. It is interesting to note that in tuberculosis of the vertebral column bovine infections are rather commoner than in tuberculosis of the hip, and that in the latter condition they are somewhat more frequent than in tuberculosis of the knee. The higher incidence in the spine is explained on the ground that some of these lesions are caused by direct infection from the abdominal cavity, where, of course, as is well known, the ratio of infection with the bovine to that with the human type of bacillus is high.

How to Obtain Sputum for Staining.—Dundas-Grant has obtained sputum by inciting cough by transnasal instillation or by catching a little patch of sputum sufficient for staining purposes on a laryngeal mirror. The administration of potassium iodide for a few days, if not otherwise contraindicated, will facilitate the expulsion of sputum.

Injection of Phenol and Hamamelis in Rectal Prolapse.—In a case of rectal prolapse in which there was protrusion on straining for fully 2 inches beyond the anal margin, Macewen resorted to injection. Once a week for six weeks the wall of the prolapsed rectum was injected with phenol and hamamelis, starting with a dose of 1 cc. and increasing to 2 cc. Six injections were sufficient to remove a condition of ten years' standing, and it has not recurred for more than a year, notwithstanding the patient's poor general condition and cough. The treatment is carried out with great ease, since a speculum is not required. Care should be taken to return the prolapse after injection, and it is generally well to give one or two final injections after the mass no longer comes down, using a speculum if necessary.

Lancet, London

1: 741-792 (April 14) 1928

Some Problems of Nephritis. T. I. Bennett.—p. 741.
*Two Studies of Streptococcal Infections. H. J. Parish and C. C. Okell.—p. 746.
*Treatment of Complete Retention of Urine of Prostatic Origin by Electrocoagulation. J. G. Remijnse.—p. 750.
Mule-Spinners' Cancer and Mineral Oils. C. C. Twort and H. R. Ing.—p. 752.
Variations in Volume of Chest with Changes of Posture. J. L. Livingstone.—p. 754.
*Spontaneous Rupture of Thoracic Aorta. F. T. Thorpe.—p. 756.
Case of Electrocution. J. G. Morgan and A. J. Amor.—p. 756.
Case of Subcutaneous Emphysema Complicating Labor. M. Salmond.—p. 757.

Streptococcal Antibody.—Parish and Okell stress the fact that there is strong evidence that the protective action of streptococcal antitoxic serum is due to one antitoxin, which has been produced in horses in varying degree in response to immunization with toxic filtrates of varying potency. A single antitoxin generally known as scarlet fever antitoxin corresponds with the single toxin. This may be depended on to neutralize the specific toxemia, and possibly has limited anti-invasive properties as well. It is the only streptococcal antibody with any acceptable experimental and therapeutic credentials, and should be given a more extensive trial in all severe streptococcal infections, particularly in general septicemia. It is also suggested that it should be used in the prophylactic treatment of wounds received while performing postmortem examinations or surgical operations in septic cases.

Surgical Diathermy in Prostatic Hypertrophy.—Remijnse has found surgical diathermy in the treatment of prostatic hypertrophy of the utmost value. The advantages of this method are: 1. The treatment is not very dangerous. 2. It can be executed without pain after a preliminary injection of procaine hydrochloride in the urethra. 3. There is no bleeding. 4. The procedure is under the continuous control of the forefinger. 5. All kinds of prostate trouble which involve retention can be treated, even the atrophic prostate. 6. This method can replace a considerable number of otherwise unavoidable prostatectomies. 7. In cases in which operation cannot be carried out on account of the bad general condition, diathermocoagulation can still be applied successfully.

Spontaneous Rupture of Thoracic Aorta.—The tear of the aorta in Thorpe's case was situated just above the aortic valve, penetrating both the intima and the media. The blood had made its way between the middle and outer coats of the vessel wall, distending the adventitia for about 4 inches toward the arch and finally bursting into the pericardial sac. The transverse and descending parts of the aorta showed extensive atheroma with calcareous plaques, especially round the orifices of the arterial branches. The rupture occurred as the patient, aged 82, was getting out of bed.

Annales des Maladies Vénériennes, Paris

23: 161-240 (March) 1928

*Bismuth Treatment of Syphilis. S. Nicolau and M. Blumental.—p. 161.
Local Treatment of Chancroid. Barthélemy.—p. 168.
Syphilitic Orchiepididymitis. J. E. Marcel.—p. 173.

Case of Syphilitic Reinfection After Exclusive Bismuth Treatment Begun in Secondary Period.—To the three reported cases of syphilitic reinfection in patients whose first infection had been successfully treated with bismuth exclusively, Nicolau and Blumental add another case and conclude that the four cases prove that bismuth alone is capable of effecting a rapid and even abortive cure of syphilis.

Archives Franco-Belges de Chirurgie, Brussels

30: 289-376 (April) 1927

*Surgical Treatment of Syringomyelia. L. Poussep.—p. 293.
New Technic for Uterine Fixation for Retroversion. M. Vander Elst.—p. 310.
Preventive Treatment of Puerperal Infection by Sulpharsphenamine. E. Bremon.—p. 326.
Osteochondritis Dissecans of Knee Producing Foreign Bodies. Delchef.—p. 331.
Early Treatment of Obstetric Paralysis of the Arm. Parisel.—p. 334.
*Postoperative Spasmodic Ileus Cured by Spinal Anesthesia. T. Asteriades.—p. 337.

Surgical Treatment of Syringomyelia.—In the four patients operated on, material improvement in symptoms took place in spite of the advanced stage of the disease. The improvement, Poussep says, is not to be confused with spontaneous remissions in the course of the disease. In one case the improvement had lasted nine months; in another, ten months. In one case all forms of sensation were restored in the upper extremities. Apparently, the loss of sensation was not caused by destruction of sensory tracts, but by compression from an accumulation of fluid in the intramedullary cavity. It is reasonable to expect that in cases in which functional disturbance is the result of compression and not of destruction, early intervention may bring about complete cure. The swelling of the spinal cord found in every case at operation subsided on evacuation of the fluid, suggesting that the tension of the fluid within the syringomyelic cavities is greater than that of cerebrospinal fluid. This difference in tension makes it desirable to leave the incision open for some time after the operation. The liquid in the cavities did not differ in any respect from the cerebrospinal fluid.

Two New Cases of Postoperative Spasmodic Ileus Cured by Spinal Anesthesia.—Asteriades points out the value of the simple procedure of spinal anesthesia in the treatment of postoperative ileus. He reports two new cases. Both were desperate, and in both, ten minutes after the intraspinal injection of a few cubic centimeters of epinephrine-procaine hydrochloride, the ileus was relieved.

Lyon Médical, Lyons

141: 341-368 (March 25) 1928

*Examination of Feces for Eggs of Intestinal Parasites. C. Garin, Doubrow and Mounier.—p. 341.

Modified Telemann Method for Finding Eggs of Intestinal Parasites in Feces.—None of the methods now in use for finding parasite eggs are suitable for the rapid examination of feces from a large number of individuals. Garin et al. had to examine all the workmen in a large mine and therefore modified Telemann's method as follows: 30 cc. of officinal hydrochloric acid is poured into a 120 cc. graduated flask; ordinary ether is then added, a little at a time (10 cc. for instance), the fluid being agitated constantly under a jet of cold water. Until about 45 cc. has been added, a limpid, homogeneous mixture is formed which does not separate into two layers. From now on, one can add larger quantities of ether, agitating all the time under a jet of cold water; this is continued until the flask is full. At this moment the liquid separates into two layers; the lower is clear; the upper is turbid, but rapidly becomes clear. The mixture must be vigorously agitated just before using. The examination is made as follows: a piece of feces the size of a walnut is stirred up in fifteen times its volume of water and allowed to stand one minute to let the large particles settle. About 10 cc. of this emulsion is then poured into a centrifuge tube; to this is added from 3 to 4 cc. of the reagent and the tube is agitated vigorously. As soon as its contents are intimately mixed, one notes a beginning separation; thirty revolutions of the hand centrifuge result in complete separation into three layers. With a quick movement, one throws out the contents of the tube and then searches for eggs in the two or three drops remaining at the bottom of the tube, which are placed between slide and cover-glass. The entire examination requires only five minutes and may be used in searching for the eggs of *Ankylostoma, Trichocephalus, Ascaris,* and *Hymenolepis nana* as well as for the larvae of *Anguillula* and *Arthropoda.*

Presse Médicale, Paris

36: 465-480 (April 14) 1928

*Fiction of Anthracosis. A. Jousset.—p. 465.
*True Nature of Chronic Pericolitis. J. Leveuf.—p. 470.

Pulmonary Pigmentations and the Fiction of Anthracosis.—Jousset, after an exhaustive study of the histology and chemistry of pigmented lungs, concludes that the greater part of the cases diagnosed as anthracosis are in reality cases of siderosis. The pigmentation is not due to inhaled carbon particles but to iron compounds resulting from passive congestion produced by many different conditions, particularly tuberculosis. All forms of tuberculosis tend to form black iron pigment.

True Nature of Chronic Pericolitis.—Leveuf does not believe in the inflammatory origin of the bands, veils, films and membranes which are commonly described under the name of chronic pericolitis. In more than one third of all necropsies performed on new-born infants, he found definite examples of these conditions on the right colon. Indeed, all of these conditions have been found in new-born infants and this, together with the fact that the membranes do not have an inflammatory structure, proves that they are congenital.

36: 481-496 (April 18) 1928

*Mycosis of the Spleen. M. Langeron.—p. 481.
Classification of Local Cyanoses. G. Delater and R. Hugel.—p. 482.

Mycosis of the Spleen.—According to Langeron, the nodule of Gandy (splenic nodule) is not a mycotic but a hemorrhagic lesion. It always forms around a branch of the splenic artery, and is surrounded by a wide zone of extravasated red blood corpuscles. Between the central artery and the red blood corpuscles is a zone in which are found the pseudomycelium, the concretions resembling the sporiferous apparatus, the iron pigment and frequently giant cells containing small concretions. This is the zone concerning which there has been so much controversy. It has been or still is the scene of capillary hemorrhages, as proved by the existence of extravasated erythrocytes at its periphery. Following the hemorrhage there is the production of a fibrinous clot and when partial disintegration of this coagulated fibrin occurs, the insoluble portions are transformed into fragile, hyaline cords, which form the pseudomycelium. From his study the author concludes that there is no foundation for the mycotic hypothesis in the explanation of certain splenomegalies. The cultures that have been obtained from them are accidental contaminations by common molds devoid of any pathogenic properties. The mycelial filaments and the sporiferous apparatus described in the spleen are errors in interpretation. The origin of these elements can be explained by the pathologic modifications of fibrin and collagen in small hemorrhagic foci, the production of which is not necessarily due to an active infectious agent.

Archivio Italiano di Urologia, Bologna

4: 201-284 (Feb.) 1928

Primary Tuberculosis of the Bladder. A. Romani.—p. 201.
Contraction and Dilatation of the Two Ureters After Subtotal Hysterectomy. G. Giuliani.—p. 209.
*Extirpation of Hypogastric Plexus. L. Caporale.—p. 221.
Italy's Part in Advancement of Urology. M. Pavone.—p. 267.
*Large Urethral Calculus Four Years in Situ. F. Marchini.—p. 275.

Extirpation of the Hypogastric Plexus.—Caporale performed experiments on thirty dogs to test the effects of extirpation of the hypogastric plexus. The pyeloscopic, pyelo-

graphic and functional examinations (total amount of urine, separate collections from the two kidneys, chromocystoscopy and anatomopathologic changes) demonstrate that, after a varying number of months following the intervention, renal functioning changes steadily, until finally true hydronephrosis develops. Unilateral extirpation produces hemiplegia of the bladder and a slight degree of retention.

Large Urethral Calculus Four Years in Situ.—Marchini's patient had had gonorrhea, and five years previously a venereal ulcer with suppurative inguinal adenitis, for which he was operated on. There was a mass in the urethra, which the patient was in the habit of pushing to one side in order to urinate freely. Erections were painful. The nodule was first diagnosed as a manifestation of tertiary syphilis (the Wassermann test was positive), and the patient was given antisyphilitic treatment. The mass did not diminish, and exploration of the urethra led to the belief that there was a fibroma or fibromyoma of the urethra or of an adjoining structure. Operation disclosed a calculus with a maximal diameter of 3 cm. The postoperative course was uneventful and recovery was complete without the slightest functional disturbance.

Medicina del Lavoro, Milan

19: 49-96 (Feb. 29) 1928

*Skin Changes in Chronic Saturnine Nephritis. L. V. Blina.—p. 56.
*Alleged Roentgen-Ray Lesions. R. Balli.—p. 65.
Action of Electric Currents on Vegetative Nervous System. G. Aiello. —p. 68. C'td.

Skin Changes in Chronic Saturnine Nephritis.—Blina found skin changes always present in chronic saturnine nephritis. The changes involve chiefly the sweat glands. The changes differ from those in other forms of nephritis in that there is a marked increase of intertubular connective tissue. The tubular changes found in the sweat glands run parallel to the renal changes. In experimental acute lead poisoning, the sweat glands contained granules of lead within the epithelium and the epithelial structures presented marked degenerative changes.

Alleged Roentgen-Ray Lesions.—Balli gives the results of necropsy, including histologic studies of the nervous system, in the case of a girl, aged 4, who died after application of roentgen rays to the head with depilatory intent. He raises the question whether the lesions found were due to local, predispositional factors, to chance determining causes, to general or constitutional predisposing causes, or to a technical error.

Progresos de la Clínica, Madrid

36: 81-152 (Feb.) 1928

Experimental Encephalitis. R. Alberca Lorente.—p. 81.
*Gonorrheal Serpigo. E. A. Sáinz de Aja and J. Ontañón.—p. 129.
Meinicke and Garriga Tests in Syphilis. J. Souto Beavis and F. Beato González.—p. 131.
Treatment of Tuberculous Peritonitis. C. González.—p. 133.

Gonorrheal Creeping Eruption.—Among more than 50,000 venereal patients, Sáinz de Aja has seen three cases of a chronic serpiginous erosion on the penis. In the case described, the gonococcus was demonstrated in the involved tissue. The therapeutic test confirmed the diagnosis. Unlike syphilitic serpigo, the gonorrheal type is highly painful.

Revista Médica de Chile, Santiago

56: 91-196 (Feb.) 1928

*Asystole and Digitalis Medication. R. Bustos.—p. 91.
Autonomic Nervous System. T. Muhm.—p. 113.
Operation on the Lacrymal Duct. I. Martini.—p. 128.
*Treatment of Sciatica. R. Valdivieso D.—p. 133.

New Conceptions Regarding Asystole and Digitalis Therapy.—The author considers that in patients with asystole, the diuresis observed after using digitalis is not due to improvement in the condition of the heart muscle, but to an action on the blood, resulting in heightened elimination of water and chlorides. Govaerts, Bayliss and Epstein's explanation of nephritic edema and its concomitant dehydration can be applied to the mechanism of cardiac diuresis. The author mentions the similar effect of digitalis, merbaphen, sodium citrate, etc., which produce a large deficiency of water and chlorides, as a proof that digitaline has an action on the blood, and this fact would explain the excellent results obtained in cardiac decompensation. In a case of amyloid nephrosis with edema, 8 to 15 Gm. of albumin per liter in the urine, and the heart in good condition on clinical and roentgenologic examination, Ambard's constant and Vollhard's test were absolutely normal, digitaline alone caused diuresis (several quarts of urine being voided), and the patient was dehydrated on two different occasions.

Treatment of Sciatica.—In Valdivieso's patient there was bilateral sciatica, produced by periostitis, probably of gonococcal origin. Improvement was brought about by exposures to the roentgen ray.

Beiträge zur klinischen Chirurgie, Berlin

142: 441-663, 1928

Suture of Bones. A. Nussbaum.—p. 441.
Injury to the Bone from Mechanical Approximation. G. Belke.—p. 450.
Growth of the Diaphysis in Presence of Epiphyseal Necrosis. H. Nonn. —p. 454.
Late Results of Separation of Epiphysis of Upper End of Femur. F. Jumpertz.—p. 460.
Surgical Treatment of Interference with Extension of the Big Toe. J. Schüller.—p. 471.
Extrophy of the Bladder. C. Roux.—p. 482.
*Peristalsis of Renal Pelvis in Man. A. Schmidt, H. Bronner and J. Schüller.—p. 490.
Urethral Stones. P. Siwon.—p. 499.
Sex Hormone. H. Küttner.—p. 517.
Leontiasis Ossea. F. Schwarz.—p. 552.
*Appendicular Mesenteriolitis. H. Feriz.—p. 564.
*Operative Treatment of Epilepsy. E. Melzner.—p. 580.
*Late Injury to Spinal Cord in Pronounced Scoliosis. W. Jaroschy.—p. 597.
Epiphyseal Separation and Premature Ossification of Growth Zone. C. T. Willich.—p. 626.
Simplification of Intravenous Anesthesia. F. Simon.—p. 660.

Peristalsis of Renal Pelvis in Man.—The author's studies have shown that irritability of the renal pelvis can be increased by injection of chemical substances. Pelves treated in this manner prior to the removal of the kidney have shown in many instances that after the removal from the body they were still able to respond to mild stimuli with peristaltic contractions. These peristaltic movements begin in the calices of the fornix and travel across the pelvis to reach the ureter. The peristalsis begins with a circular contraction and is followed by a contraction of the pelvis, which after lasting a few seconds, slowly disappears. During the peristalsis the pelvis is narrowed principally in its transverse diameter. Expression of the contents occurs during the moment of contraction and before the peristaltic wave has reached the ureter. The ureter opens up as the result of longitudinal contraction of the pelvis. The pelvis likewise exhibits antiperistaltic waves. These can be produced by mechanical stimulation of the ureter. Stimulation of the kidney substance itself failed to induce peristaltic waves in the pelvis.

Appendicular Mesenteriolitis.—Anatomicopathologic and bacteriologic studies were made of 953 cases of appendicitis with the view of determining the incidence and rôle of accompanying infection of the appendicular mesenteriolum. There were 604 cases of so-called chronic appendicitis, 288 of acute appendicitis without perforation, and sixty-one of acute appendicitis with perforation peritonitis or abscess. Of the 892 cases exclusive of those with perforation, 363, or 47 per cent, showed involvement of the mesenteriolum. Feriz's studies led him to believe that mesenteriolitis, beginning as a collateral involvement, may later constitute an infection per se and independent of the original appendicitis. The following phases were observed in the mesenteriolum in cases of acute appendicitis: initial hyperemia, edema and early damage to the blood vessel wall. At a more advanced stage, there were observed lymphangitis and lymphadenitis, diffuse and local serocellular infiltration and pus formation. The infection most frequently subsides, but occasionally gives rise to the following complications: (1) infection of mesenteric vessels, interfering with the blood supply of the appendix and leading to gangrene of the latter; (2) an ascending septic thrombosis leading to pylephlebitis and multiple hepatic abscesses; (3) diffuse peritonitis, the result of rupture of an abscess, or formation of a peritoneal or retro-

peritoneal abscess. He found micro-organisms in 47 per cent of his acute cases of an average duration of eighteen hours. Streptococci appeared to play the main rôle in the infection. Histologic studies demonstrated that the infection proceeded from the appendix to the mesenteriolum by way of the lymphatics. There were marked perilymphangitis and paralymphangitis, perivasculitis, periphlebitis and leukocytic infiltration. Infection of the blood vessel wall appeared to be secondary, from the periphery inward. This is probably the explanation of the relative infrequency of pyemia of mesenteric origin. He points out that complications due to the involvement of the mesenteriolum may arise even after the appendix has been removed. Suppurative mesenteriolitis is clinically manifested by a chill. The ensuing pylephlebitis proved fatal in his experience. In such cases he practiced extirpation of the infected area and ligation of the ileocolic vein. The fatalities in his series were due, in at least one half of the cases, to perforation of a purulent mesenteriolitis. When the mesenteriolum healed, it formed scars and adhesions which, in turn, distorted the position and the lumen of the appendix. Fecal stasis resulted, which predisposed the organ to fresh attacks or to symptoms of a so-called chronic appendicitis.

Operative Treatment of Epilepsy.—Melzner reports his results in seventy-six operations for epilepsy. In 70 per cent of these cases, epilepsy was the result of trauma; in nineteen, the result of a brain tumor, and in the rest the cause was not determined. Thirty-five of the patients were followed up. They had survived the operation from one to ten years. Twenty-four lived five or more years after the operation. Of the fifty-four patients with traumatic epilepsy, 35 per cent were favorably influenced by the operation, 21 per cent remained unimproved, and 24 per cent died either as the result of the operation or some time later in a status epilepticus. The worst results were obtained in the brain tumor cases. The mortality here was 64 per cent. These, however, were late cases which came to operation only after the development of the epileptic reaction.

Late Injury to the Spinal Cord in Pronounced Scoliosis.—Five cases of compression myelitis, the result of pronounced scoliosis, were observed in Schloffer's clinic in the course of seven years. The possibility of injury to the cord in cases of scoliosis has been established. Cases of congenital scoliosis are more likely to produce this injury, although it has been observed in rachitic scoliosis as well. Laminectomy has brought about cure in these cases and at the same time has demonstrated the absence of other causes of compression. On the basis of his own four cases and a case reported by Elmslie, a typical clinical picture is presented. Without any change in an old scoliosis, there develop, at about the second half of the second decade, symptoms of a transverse lesion. In the course of a few weeks there develop a high grade spastic paraplegia of the extremities, sensory disturbances, and, more rarely, mild bladder and rectal disturbances. Myelography shows a complete and lasting stoppage of the fluid. The usual site of the lesion is from the fourth to the seventh thoracic vertebra. The laminectomy must be an extensive one. Stenosis of the spinal canal was observed.

Deutsche medizinische Wochenschrift, Leipzig

54: 509-550 (March 30) 1928. Partial Index

Diagnosis and Treatment of Glaucoma. J. Igersheimer.—p. 509.
Treatment of Nasal Catarrh. H. Beyer.—p. 512.
Cholesterol Metabolism and the Ear. J. Berberich.—p. 514.
Reversible Mutation Forms of Typhoid Bacilli in Man. E. G. Dresel and O. Stickl.—p. 517.
*Experiments with Syphilis Immune Serums. H. Reiter.—p. 519.
Determination of Minimal Quantities of Lead. P. Schmidt.—p. 520.
*Malaria Treatment of Progressive Paralysis. A. Vallejo Nágera and R. González Pinto.—p. 521.
*Congenital Syphilis and Poliomyelitis. Alterthum.—p. 522.
Influencing the Cell with Radium in Study of Mitosis. J. Seide.—p. 523.

Experiments with Syphilis Immune Serums.—A serum must not merely delay, but with certainty prevent the outbreak of the infection in rabbits, before its use is justified in treatment of general paralysis. None of the syphilis immune serums tested by Reiter did this.

Malaria Treatment of Progressive Paralysis.—Of sixty-three patients in advanced stages of general paralysis and taboparalysis treated by Vallejo Nágera and Pinto, 9.53 per cent were able to return to their old occupation with full possession of their intellectual faculties. Dysarthria and tremors had disappeared, but the pupillary disturbances and the absence of the tendon reflexes remained. In 19.05 per cent the patients were so far improved that they were able to return to their occupations with certain limitations. In each of these groups the condition of the spinal fluid remained about the same. In a further 14.28 per cent there was distinct improvement in the psychic and somatic conditions, but not enough to warrant discharge from the institution. In 44.44 per cent the treatment failed. There were eight deaths, nearly all in taboparalytics, attributable to the treatment. Treatment with arsphenamine, mercury and bismuth was given after the malaria.

Congenital Syphilis and Poliomyelitis.—In a children's hospital in Berlin, eight cases of poliomyelitis occurred in a period of five years, in four different houses. Seven of the children attacked had congenital syphilis. The percentage of syphilitic children in the hospital was between 1 and 2. The houses in which the cases occurred were occupied mainly by nonsyphilitic children. Since the apparent connection here between syphilis and poliomyelitis was not noted in any of the epidemics of poliomyelitis in earlier years, Alterthum raises the question whether the modern intensive arsphenamine treatment influences the nervous system unfavorably, creating a predisposition to poliomyelitis.

Münchener medizinische Wochenschrift, Munich

75: 553-592 (March 30) 1928. Partial Index

*Cause of Onset of Labor. H. Knaus.—p. 553.
Physiology and Diseases of Lymphoid Ring. J. Beck.—p. 556.
Clinical Course and Bacteriology of Abscess-Forming Paratyphoid Sepsis. E. R. Grawitz.—p. 560.
Trypanocide Substance in Blood Serum in Hemophilia. Leder.—p. 562.
Massive Retroperitoneal Hemorrhages. W. Eigler.—p. 563.
Diagnosis and Treatment of Quadriceps Rupture. L. Frankenthal.—p. 563.
Nature and Treatment of Seasickness and Air-Sickness. F. Dammert.—p. 566.
Gumma of Intestinal Wall Simulating Intra-Abdominal Tumor. A. Stein and O. Hensel—p. 568.
*Atresia of Vagina After Normal Childbirth. S. Heilbronn.—p. 569.
Acute Dermatitis from Leather (Shoe) Dye. Suchier.—p. 570.
Experiences with Preserved Human Milk. Krieger.—p. 570.
"Allergen-Free Chambers." H. Kämmerer and W. Haarmann.—p. 570.

Cause of Onset of Labor.—From researches made on rabbits, Knaus concludes that the onset of labor depends on two factors. The uterine musculature itself, with its steady increase in contractility, in autonomic motility and tonus, is the first of these factors, and the involution of the corpus luteum, by which the uterine musculature is exposed to the full influence of the hormone of the posterior lobe of the pituitary is the last, the exciting factor. Normally, both factors work together, but either one alone can initiate parturition. Contrary to his earlier opinion, he now holds that it is the ovum, not the ovarian hormone or the hormone of the corpus luteum, that supplies the stimulus to growth of the cells of the uterine muscle in pregnancy.

Atresia of Vagina After Normal Childbirth.—Heilbronn reports a case of complete atresia of the vagina two weeks after normal delivery in a primipara, aged 28. On sharp division of the adhesions, a hole, nearly as large as a penny, was found in the upper pole of the right labium majus. Presumably, this had been caused by rubbing on the part of the child's head. The tissue rubbed away had apparently provided the means by which the adhesion between the upper pole of the left and the entire middle portion of the right labium had been effected.

Strahlentherapie, Berlin

28: 431-638, 1928. Partial Index

*Biologic Action of Roentgen Rays. H. Cramer.—p. 431.
Healing of Ureteral Fistula by Roentgen-Ray Destruction of the Kidney. P. Klein.—p. 482.
Determination of Roentgen-Ray Dose Through Vaginal Measurements in Treatment of Carcinoma of Uterus. G. K. F. Schultze.—p. 524.
Experimental Study of Injury to Offspring Through Roentgen Rays. P. Schugt.—p. 546.

Biologic Action of Roentgen Rays.—The author showed in animal experiments that in death from roentgen irradiation, destruction of the organs belonging to the reticulo-endothelial system takes place. The blood picture as affected by roentgen rays demonstrates the importance of the mesenchymal function as expressed in the lymphocytic curve, its activation through small doses, mild disturbance through moderate doses, and irreparable damage through high doses. The rôle of the reticulo-endothelium and of the mesenchymal cells in general is that of a "remover of impurities" from the blood. The effect of roentgen irradiation on inflammatory processes is, in part at least, explained by the elective absorption of activating products of metabolism in the circulating blood. Organs characterized by the capacity to absorb dyes during life are likewise directly affected by roentgen irradiation. The differences in the sensitiveness of ovarian cells to roentgen rays is thus explained, the primordial follicles do not stain vitally, whereas the ripe follicles stain well. Further, the action of roentgen rays may be ascribed to an increase in nonspecific immunization and nonspecific increase in bacteriolysis through complement activation. Freund's experiments have established that in protein therapy and its equivalents, the "proteinogenous amines" play an important rôle. He sees the action of histamine in the capillary dilatation of erythema. The analogy between histamine action and roentgen-ray intoxication is seen in vagotonia, acidosis and in the leukocytic formula.

Virchows Archiv für path. Anat. und Physiol., Berlin

267: 601-857 (March 21) 1928

*Importance of Reaction of Vessel Wall for Arteriosclerosis. M. Schmidtmann and M. Hüttich.—p. 601.
*Origin of Atherosclerosis. H. Beitzke.—p. 625.
Case of Hypogenitalism in a Woman. J. S. Galant.—p. 648.
Anatomic Renal Changes in the New-Born and in Infants. L. Schwarz. —p. 654.
Lipoid and Iron Deposits in Suprarenals and Testes in Infants. A. Tobeck.—p. 690.
*Formation of True Intestinal Stones. H. Barth.—p. 716.
Peptic Ulcer of Stomach and Duodenum in Dog After Choledochoplasty. K. Hosomi.—p. 726.
Relations of Oxidizing Materials in Bacteria and Yeasts to Cell Oxydases. W. Loele.—p. 733.
Histology of Tabetic Arthropathy. A. R. Moritz.—p. 746.

Importance of Reaction of Vessel Wall for Arteriosclerosis.—In cholesterol feeding experiments on animals, Schmidtmann and Hüttich found a relation between the age of the animal and the occurrence of increase in blood pressure. Growing rabbits did not exhibit any rise after cholesterol feeding; arteriosclerotic changes appeared in them only after administration of very large doses of cholesterol. In old rabbits, the blood pressure rose and arteriosclerosis occurred after ingestion of small amounts of cholesterol. The basic substance of the arteries of young animals was found to be alkaline, of older animals, acid. The authors believe that this change in reaction is an important, though perhaps not the only, cause of the predisposition to arteriosclerosis characteristic of old age.

Origin of Atherosclerosis.—Beitzke sees the origin of atherosclerosis in local injuries of the media; proliferations of the intima are compensatory. The lipoid flecks of the intima and the sclerotic patches differ in genesis. The former are not part of atherosclerosis; they do not develop into sclerotic foci and hence never lead to clinical disturbances. Neither are calcifications of the media a part of atherosclerosis. At the most, they create a preliminary condition for it.

Formation of True Intestinal Stones.—Barth reports a necropsy observation in a man, aged 84, who, twenty years previously, had had a radical operation for carcinoma of the sigmoid. In a diverticulum, the size of a fist, at the site of a resulting stenosis of the large intestine, eleven intestinal stones were found. Their average size was that of a hazel nut. The surface was smooth and of a chocolate brown color. In most, the surface was faceted. On being cut across, they were found to be brittle. At the center of each lay a thickened fecal mass, the size of a pea. Chemical analysis of one of the stones showed it to consist mainly of calcium oxalate, with a small amount of calcium phosphate.

Wiener klinische Wochenschrift, Vienna

41: 437-472 (March 29) 1928. Partial Index

Apathogenicity of B C G. R. Kraus.—p. 441.
Radium Treatment of Skin Diseases. L. Kumer.—p. 444.
Sulphuric Acid Reaction in Dealbuminized Serum in Uremia. K. Machold.—p. 447.
Treatment of Leukorrhea. F. Mras.—p. 449.
*Treatment of Genuine Lipoid Nephrosis with Liver Diet. M. Grossmann. —p. 450.
Diminished Legal Responsibility. E. Raimann.—p. 452.
Character of Influenza in 1927. F. Pulgram and Z. Fischer.—p. 455.

Treatment of Genuine Lipoid Nephrosis with Liver Diet.—A patient, aged 27, with genuine lipoid nephrosis, which had resisted hospital treatment for three months, improved remarkably on a salt-free liver diet, without other treatment. The daily water excretion rose from 600 to 1,800 cc.; the daily sodium chloride excretion, from 2.9 to 5.9 Gm. The cachexia gave place to subjective well-being and increased strength. At the end of four weeks, the patient, who had been bedridden, felt able to return to work. There was still albumin in the urine. Grossmann believes that the liver must contain a diuretic substance other than urea.

Zeitschrift f. Geburtshülfe u. Gynäkologie, Stuttgart

93: 1-340 (March 30) 1928

*Cardiac Lesions in Pregnancy. E. Frey and F. Lardi.—p. 1.
Action of Serum of Pregnant Women on Male Genital Tract. E. Fels. —p. 50.
Lange and Heuer's Silver Reaction in Pregnancy. C. Holtermann. —p. 65.
*Early Diagnosis of Pregnancy. O. Gragert.—p. 75.
Regulation of Reaction of Blood in Pregnancy. O. Bokelmann and J. Rother.—p. 87.
Individual Treatment of Placenta Praevia. M. Henkel.—p. 103.
Forms and Modes of Origin of Intrachorial Placental Cysts. H. Baniecki. —p. 120.
Case of Paraplegia During Labor. F. Sauter.—p. 136.
Seasonal Variations in Weight at Birth. K. Hellmuth.—p. 147.
Osteogenesis Imperfecta. E. Klaften.—p. 167.
Collateral Arterial Paths in Human Ureter. G. Frommolt.—p. 173.
Total Necrosis of Intramural Myoma. H. Naujoks.—p. 211.
Histology of Corpus Luteum. K. Jkeda.—p. 229.

Cardiac Lesions in Pregnancy.—Seventy-four cases of pregnancy complicated by cardiac lesions are reported by Frey and Lardi. In twelve cases, the pregnancy was interrupted early; in forty-three cases, it was allowed to go on to spontaneous termination; in nineteen, abdominal cesarean section in local anesthesia was performed in the second half of pregnancy or early in labor. All of the mothers were discharged in good health and without heart symptoms. The authors urge the importance of the advice of the internist on deciding the proper treatment in these cases.

Early Diagnosis of Pregnancy.—Lüttge-von Mertz's alcohol extract reaction gave the best results, among the various methods tried by Gragert. To explain certain failures, he made a chemical analysis of the extracts and believes that he discovered the source of error in insufficient acid in the placental extracts used.

Zeitschrift f. d. ges. experimentelle Medizin, Berlin

60: 1-284 (March 31) 1928

Reciprocal Influence of Serum Proteins and Mastic Suspensions in Alkaline Medium. K. Samson.—p. 1.
Histochemical Demonstration of Mercury in Organs. E. Christeller and R. Sammartino.—p. 11.
*Effects of Climate of High Altitudes on Blood Sugar. N. Messerle.—p. 34.
Leukocytolysins and Antileukocytolysins in Anaphylaxis. G. P. Ssacharoff and O. W. Krassowskaja.—p. 45.
Influence of Hydrogen Ion Concentration of the Blood on Number of Erythrocytes. S. Weiss, F. Kiss and N. Kuszing.—p. 58.
Vital Staining in Central Nervous System by Blood and Cerebrospinal Routes. M. Mandelstamm and L. Krylow.—p. 63.
Hypoglycemic Symptom Complex in the Rabbit. W. W. Oppel.—p. 86.
Effect of Artificial Congestion of Bile on Blood-Forming Organs in the Rabbit. A. von Jeney.—p. 102.
Influence of Parathyroid Hormone on Blood Reaction. K. Csépai and S. Weiss.—p. 133.
*Function of Pituitary Body. S. Koster.—p. 135.
Distribution of Circulating Proteins in Course of Various Diseases. W. Starlinger and E. Winands.—pp. 138, 160, 185 and 208.
Experiments and Pathologic Studies on Progressive Muscular Dystrophy. K. Kuré et al.—pp. 233, 239 and 250.
Refutation of Mongolian Theory of "Mongolian Spot." E. Mayerhofer. —p. 255.
Portal Vein Hyperglycemia After Feeding with Dextrose and Levulose. G. Eisner.—p. 271.

Effects of Climate of High Altitude on Blood Sugar.—In the first few days after their arrival in the mountains, the fasting blood sugar value of some of Messerle's experimental subjects fell, in others it rose. After a certain length of time, it was higher in all than the value noted while they were in the lowlands. The curve of alimentary hyperglycemia exhibited changes in various directions as acclimatization progressed. The rise was steeper, the fall more rapid and the maximum values were in some cases higher than in the lowlands. The curve showed the greatest changes during the first few days after removal to the mountains. After two weeks they were hardly noticeable. The curve became constant sooner in young persons than in older persons, i. e., acclimatization took place more rapidly in young persons. It appears that at high altitudes the sun has greater power to lower blood sugar than at low levels. That the sun was the determining factor was shown by the fact that the blood sugar values were not altered by "shade sun baths," i. e., resting in the shade. Messerle considers two groups of factors to be responsible for the biologic effects of mountain climate. The first group consists of diminished oxygen tension, lower atmospheric temperature, dampness, wind etc., and acts by increasing the reactivity of the sympathetic portion of the vegetative nervous system. The second group comprises the quantitatively and qualitatively altered rays of the sun, and acts by depressing the excitability of the sympathetic or by heightening that of the parasympathetic. Acclimatization to mountain climate represents the adjustment of the vegetative nervous system to a new and, for the individual, optimal relative equilibrium.

Function of Pituitary Body.—In two dogs from which the pituitary had been totally removed and in one from which it had been partially removed, Koster found distinct hypertrophy of the infundibulum two months after the operation. Thirteen and one-half months after a similar operation in a ten weeks old dog, the hypertrophy was high grade. The changes were studied in serial sections and he considers his observations indisputable proof that the pituitary has an important function.

Zeitschrift für Krebsforschung, Berlin

26: 263-360 (March 6) 1928

Primary Multiple Carcinomas of the Uterus. D. M. Chajutin.—p. 263.
*Simultaneous Occurrence of Cancer and Tuberculosis in Lungs of Young Individuals. S. M. Derischanoff.—p. 275.
*Practical Value of Alderhalden's Reaction in Diagnosis of Cancer. F. P. Tinozzi.—p. 286.
*Results of Splenectomy in Healthy Rats and in Rats with Inoculation Tumor. H. Hirschfeld and F. P. Tinozzi.—p. 304.
Growth of Transplanted Embryonal Tissue and Its Significance with Regard to Tumor Genesis. L. Skubiszewski.—p. 308.
Variability of Bacillus Tumefaciens. F. Kauffmann.—p. 330.
*Effect of Vitamin Unbalance on Origin of Malignant Tumors. R. Erdmann and E. Haagen.—p. 333.
Spontaneous Tumors in Avitaminotic Rats. M. Busch.—p. 348.

Simultaneous Occurrence of Cancer and Tuberculosis in Lungs of Young Persons.—Derischanoff reports a case of primary carcinoma of a bronchus with pulmonary and cerebral metastases occurring in a man, aged 22, in whom pulmonary tuberculosis and tuberculous meningitis were also present. He concludes: (1) The cancer and the tuberculosis existed symbiotically in this case. (2) Tuberculosis combined with cancer is usually exudative. (3) It is extremely difficult to demonstrate tubercle bacilli in the sputum of patients suffering from both tuberculosis and cancer of the lungs. (4) The combination of pulmonary tuberculosis and pulmonary cancer is extremely rare up to the age of 30.

Practical Value of Abderhalden's Reaction in Diagnosis of Cancer.—Tinozzi is of the opinion that the Abderhalden reaction is not of great practical value in the diagnosis of cancer, due to the great technical difficulties, to the possibility of gross error, and to the large number of doubtful cases and the frequent negative results. Nevertheless, he believes that the method should not be completely rejected, because it may be possible so to improve it that it will give a higher percentage of positive results and present fewer technical difficulties.

Results of Splenectomy in Healthy Rats and in Rats with Inoculation Tumor.—Rats ordinarily have a marked tendency to develop "pernicious anemia of rats" after splenectomy. Hirschfeld and Tinozzi, in a large number of experiments found, however, that splenectomized tumor rats live longer than splenectomized normal rats and that they are also less subject to the so-called pernicious anemia described by Landa.

Effect of Vitamin Unbalance on Origin of Malignant Tumors.—Erdmann and Haagen studied the effect on rats of a diet containing no vitamin A or C. In one series of forty rats, three tumors developed and in another series one. Metastases were found in none of the tumor rats and attempts made to transplant each of the tumors into from ten to twenty other rats gave negative results. The histologic structure of the growths themselves, however, was such as to classify them definitely as malignant animal tumors. The authors conclude that an unbalanced vitamin diet with an emphasis on vitamin B favors the origin and development of tumors in rats.

Zentralblatt für Chirurgie, Leipzig

55: 833-896 (April 7) 1928

Dilatation of Ureteral Stricture by Use of In-Dwelling Drain. H. Coenen.—p. 835.
Introduction of Bile into Duodenum in Long Standing Biliary Fistula. K. Tiesenhausen.—p. 836.
Plastic Operation for Web-Like Dermatogenous Contractures of Large Joints. A. Arnolds.—p. 838.
Hair as Cause of Neuralgia. S. Sofoteroff.—p. 841.
*Case of Congenital Sarcoma. P. G. Hecker.—p. 842.
*Treatment of Purulent Osteomyelitis by Irrigation of Medullary Cavity. M. Saidman.—p. 844.
*Massage of the Heart in Syncope. W. Gross.—p. 847.
A Simple Finger Splint. F. Franke.—p. 852.

Case of Congenital Sarcoma.—Hecker reports a case of congenital tumor in the left gluteal musculature in a child, aged 3 months. It was removed. Microscopic study revealed a spindle-cell sarcoma. Three weeks after the operation the mother noted a new growth in the region of the scar. There were no metastases. A wide excision into healthy tissue was made. At examination four months later the child did not show recurrence and was developing normally. This rare type of congenital sarcoma thus appears to have been removed before metastasis had taken place. The case is too recent to answer the question of the possibility of permanent cure.

Treatment of Purulent Osteomyelitis by Irrigation of Medullary Cavity.—The author experimented in animals with irrigation of the medullary cavity of large bones. This is accomplished by drilling several holes into the bone cavity, fitting a cannula connected with a syringe into it and irrigating with a disinfecting fluid. He applied this method in a case of subacute osteomyelitis of the tibia in a man, with gratifying results.

Massage of the Heart in Syncope.—Gross reviews the well known methods of combating syncope and urges his method of abdominal or subdiaphragmatic massage. A midline supra-umbilical abdominal incision is made, the right hand is introduced under the left diaphragmatic cupola directly over the junction of the esophagus with the stomach. Rhythmic compression of the heart soon results in contractions, at the same time a characteristic, hard, uterus-like consistency is developed. He has carried out the procedure successfully in eight cases. The method is particularly applicable during the course of a laparotomy, but can also be resorted to in asphyxia, shock, gas poisoning, and for resuscitation after hanging, etc. He warns that the procedure must be carried out not later than five minutes after the onset of syncope.

Zentralblatt für Gynäkologie, Leipzig

52: 665-728 (March 17) 1928

Centers for Giving Advice on Marriage. H. Sellheim.—p. 666.
*Treatment of Chronic Gonorrhea with Living Vaccine. F. Wolff.—p. 674.
Two Cases of Leukoplakia of Portio Following Biopsy. H. Hinselmann and M. Esser.—p. 686.
Ovarian Tumors in Elderly Women with Hypertrophy of Mammae and Uterus and Uterine Hemorrhages. R. Müllerheim.—p. 689.
*Treatment of Uterine Hemorrhages with Diuretics. P. Wermer.—p. 693.
Modification of Blond's Decapitation Thimble. K. Blond.—p. 696.

Vaccine Treatment of Chronic Gonorrhea in Women.—Cases suitable for treatment with living vaccine are those in which the local process has subsided without disappearance of the gonococci and in which the reserves of

resistance in the body are good. Vaccine treatment acts on the deep foci in the tubes, corpus and cervix; it does not influence urethral and Bartholin gland infection. The inoculation may be subcutaneous or intracutaneous. It results in a local phlegmon, which contains large numbers of living gonococci and in which antibodies continue to be formed over a considerable time, much longer than when dead gonococci are used. The general reaction is slight. Thirty cases are reported.

Treatment of Uterine Hemorrhages with Diuretics.—Wermer confirmed experimentally his hypothesis that removal of water from the organism would result in increased secretion on the part of the posterior lobe of the pituitary, and used this fact in the treatment of forty-six ambulant patients with uterine hemorrhages. Twenty grams of pure urea was given twice daily as a diuretic. Thirty-three of the patients were favorably influenced; in twenty-seven the bleeding ceased entirely or nearly so. Ten were uninfluenced. Three broke off treatment. Improvement generally set in within a few hours after taking the first dose; four or five doses were usually required to obtain the full result. The bleeding was of ovarian origin in most of the cases. Patients with myoma were not treated.

Nederlandsch Tijdschrift v. Geneeskunde, Haarlem

72: 1417-1548 (March 24) 1928. Partial Index

*Subacute Anterior Poliomyelitis in the Adult. C. T. van Valkenburg. —p. 1441.
The Setting Up of Empirical Formulas with Aid of Method of Infinitesimal Quadratures. E. Brouwer.—p. 1454.
Diabetes Psychoses. H. J. van der Loeff and J. A. J. Barnhoorn. —p. 1465.
Intervertebral Calcinoses. L. P. Rietema and S. Keijser.—p. 1472.
Two Cases of Echinococcus of the Spleen. E. J. G. Mertens zur Borg. —p. 1475.

Subacute Anterior Poliomyelitis in the Adult.—In van Valkenburg's patient, a man, aged 54, the poliomyelitis followed a fall on the back. He died after five months. Pathologic examination showed changes in the central portion of the cord, the glia and ependyma of the central canal, as well as in the anterior horns. Elsewhere, also, in both the gray and the white matter, signs of low grade myelitis were present. It appears probable that the virus spread by the lymph channels; there were changes in the composition of the cerebrospinal fluid, perhaps connected with the extensive involvement of the marginal portions of the white matter. That the cord presented, from the beginning, a lessened resistance might be concluded from the presence of heterotopic collections of gray matter in the cervical cord and medulla oblongata.

Acta Medica Scandinavica, Stockholm

68: 97-188 (March 15) 1928

Study of Hydrogen Ion Concentration in the Feces in Health, in Gastric Achylia, Simple Colitis and in Gastrogenetic Diarrhea. N. C. Lunding. —p. 97.
Correction of the Sedimentation Reaction for the Effect on Cell-Volume Percentage; Normal Limits of Sedimentation. H. C. Gram.—p. 108.
Suspension-Stability of Blood in Morbilli and Parotitis. O. Rømcke.—p. 123. In English.
*Erythema Nodosum and Infectious Diseases. M. Arborelius.—p. 151.
*Endemic, Manifest and Latent Scurvy; Diagnosis of Latent Scurvy. H. Öhnell.—p. 176. In English.

Erythema Nodosum and Infectious Diseases.—Arborelius found the following etiologic factors in twelve cases of erythema nodosum: fresh tuberculous infection in two, influenza in two, infection of upper respiratory passage in three, sore throat in two and septic infection in three. He views the eruption of erythema nodosum as a nonspecific reaction of the organism to various infections. In children and in young persons, it is frequently a manifestation of a fresh tuberculous infection, in older people it is likely to be the result of various infections other than tuberculosis. No etiologic significance can be attached to the occurrence of the eruption, since it can be provoked by a variety of infections.

Experiences of Endemic, Manifest and Latent Scurvy in Sweden with Special Reference to New Methods of Diagnosing Latent Scurvy.—In the author's twenty-two cases of scurvy, the condition was brought about in all but one case by a deficiency of vitamin C in the diet. The deficiency was the result of dietetic measures instituted for the treatment of intestinal disease. Milk, fruits and vegetables were either entirely lacking or were taken in very small quantities. He noted that even a small quantity of potatoes was able to prevent the development of scurvy. (The introduction of potatoes into Norway in 1760 resulted in diminution of scurvy.) Gingivitis was present in every case. Cutaneous hemorrhages were observed in sixteen. These were rather small isolated hemorrhages, mainly confined to the lower extremities. Hematuria occurred in one case and hemoptysis in two. Latent scurvy can be recognized by changes in the gums and by atrophy in the jawbone. It has been shown that these changes disappear on proper diet. The value of the Hess test is relative, since it may be present in different conditions.

Finska Läkaresällskapets Handlingar, Helsingfors

70: 79-147 (Feb.) 1928

Increased Sensitiveness of Vagus in Rats Fed on Diet Lacking in Fat-Soluble Vitamins. B. von Bonsdorff and R. Granit.—p. 79.
*Changes in Body Weight in Pulmonary Tuberculosis. J. Grönberg.—p. 92.
Physiology of Mammary Glands. G. von Wendt.—p. 116.

Changes in Body Weight in Pulmonary Tuberculosis.—Grönberg's studies in 2,180 patients in a sanatorium for pulmonary tuberculosis in Finland, comprising about 42,000 weighings and covering a period of seven years, show that the curve of the average monthly increase in body weight was practically the same from January to April (from 245 to 262 Gm.), dropping somewhat in May (232 Gm.), rising rather sharply during the summer months to reach its peak in September (385 Gm.), then sinking to the minimum in December (216 Gm.). There was marked similarity between the weight curves and the curves of the average monthly temperature of the air and hours of sunshine. These observations on the relation between warmth and sunshine and body weight agree with results from sanatoriums for the tuberculous in widely different parts of the world.

Ugeskrift for Læger, Copenhagen

90: 241-258 (March 15) 1928

*Phototherapy of Tuberculosis of Larynx. A. Plum.—p. 241. C'td.

90: 259-282 (March 22) 1928

*Phototherapy of Tuberculosis of Larynx. A. Plum.—p. 259. C'cn.

Treatment of Tuberculosis of Larynx, with Special Reference to Prognosis with Phototherapy.—Treatment, Plum states, should first be directed to improvement of the relatively unfavorable immunologic condition. In the Finsen Institute general light baths (usually light from arc lamps) are given, with palliative operation if indicated. For patients able to sit up, two lamps with a current of 75 amperes and a strength of 50 or 55 volts are used; for bed-patients, a series of three lamps with current of 20 amperes, with exposure, as a rule, every other day, beginning with a fifteen minute exposure and with a fifteen minute increase at each exposure to the full two and a half hour period (shorter initial dosage and more gradual increase for greatly weakened patients). Phototherapy has been shown to heal the tuberculous larynx, but the time required and consequent expense frequently make combined general phototherapy and local treatment necessary. While palliative treatment is dictated by the symptoms, regardless of the immunologic condition, curative intervention must be deferred until the immunologic condition is favorable, when galvanocauterization is begun, unless cure of the disease within a reasonable time by the light therapy seems probable. The various endolaryngeal operations are generally made in direct laryngoscopy. In the 163 cases reviewed, 52.2 per cent of the patients were cured, 6.8 per cent greatly improved, 12.3 improved, and 25.7 were unchanged or became worse. The average length of treatment was nine months. Difficulty in swallowing occurred chiefly in the ulcerative exoglottic forms; it was present in about half of these cases. The lack of better results in certain cases is attributed to complicating disorders; in other cases, from the earlier period, to untimely surgical interventions. In the refractory cases still under treatment after from twelve to eighteen months, small infiltrations remain. Ambulant treatment was not as satisfactory as treatment in hospital.